BEKO 14D502S

MODEL

SERVICE MANUAL

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1. SAFETY INSTRUCTIONS

GENERAL GUIDELINES

1. It is advised to insert an isolation transformer in the AC supply before servicing a hot chassis.

2. Potentials as high as 33KV are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by any one who is not competent with the precautions necessary when working on the high voltage equipment. Always discharge the anode of the tube.

3. When servicing observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all the parts which have been overheated or damaged by the short circuit.

4. Always use the manufacturer's replacement safety components. The critical safety components marked with ⚠ on the schematics diagrams should not be replaced by other substitutes. Other substitute may create the electrical shock, fire or other hazards. Take attention to replace the spacers with the originals. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.

5. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.

6. When the receiver is not being used for a long time of period of time, unplug the power cord from the AC outlet.

7. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs of the plug.

2. Turn the receiver's power switch on.

3. Measure the resistance value with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part a return path to the chassis the reading should be between 4Mohm and the 20Mohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly in to the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 2Kohm 10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an AC voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed metallic part and check the voltage at the each point.
5. Reverse the AC plug at the outlet and repeat each of the above measurements.
6. The potential at the any point should not exceed 1.4 Vrms. In case a measurement is outside the limits specified, there is the possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

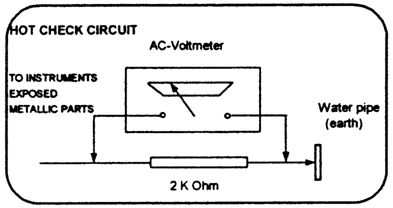

Figure 1

X-RAY RADIATION WARNING

The primary source of X-ray radiation in this receiver is the picture tube. The chassis is specially constructed to limit X-ray radiation. For continued X-ray radiation protection, replace the tube with the same type of the original one.

CAUTION

AFTER REMOVAL OF THE ANODE CAP, DISCHARGE THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT WITH A HIGH VOLTAGE PROBE AND MULTIMETER (SELECT VDC) AND THEN SHORT CIRCUIT DIRECTLY TO DISCHARGE COMPLETELY.

2. TECHNICAL SPECIFICATIONS

Power source	:230-240 VAC, 50Hz	
Power consumption	:55 W	
Standby power consumption	:2 W	
Aerial impedance	:75Ohm, coaxial type	
Receiving system	:PAL BG PAL SECAM BG PAL SECAM BG DK/DK' PAL SECAM BG LL' PAL I	
Receiving channels	:VHF BAND I, CH2-4 VHF BAND III, CH5-12 CABLE TV S1-41 UHF BAND CH21-69	
Audio outputs	:2 x 5W RMS at %10 THD (For 14")	
High Voltage :	28.5 ± 0.5 KV	25", 28"4/3
	29.0 ± 0.5 KV	28"16/9, 29", 32" Super Flat
	29.5 ± 0.5 KV	32" Pure Flat, 33"
Focus voltage :	%25.6 ± %38 of EHT	
Grid 2 voltage :	0-1400 V	
Heater voltage :	6.2 ± 0.2 Vrms	
Video/Audio Terminals :	AV1/2 IN	Video : 1 Vpp,75 Ohm Audio : 0.5 Vrms, >10 Kohm
	AV1 IN	RGB
	AV1/2 OUT	Video : 1 Vpp, 75 Ohm Audio : 0.5 Vrms, <1 Kohm
	AV2 IN (RCA)	Video : 1 Vpp, 75 Ohm Audio : 0.5 Vrms, >10 Kohm
Operating temperature :	0-45 Degrees	
Safety :	IEC 65 /BS P2N	
X-Ray radiation :	ACC. IEC 65/BS P2N	

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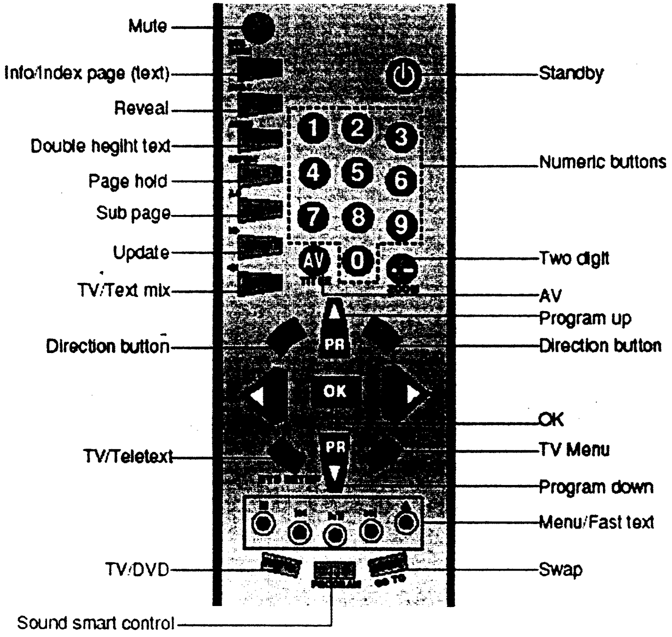
[1] : 20W should be added to find the max. power consumption of the models with subwoofer.

[2] : TV set is produced to receive "one" of these colour and sound systems.

3. SPECIAL FEATURES

- Automatic tuning system with country selection.
- 100 Programme Memory
- Available for Cable Channels (A decoder maybe required)
- Manual Fine Tuning
- Child Lock
- Return to the last channel viewed (SWAP)
- Surround Sound Effect
- 16:9 picture format
- Sound adjustment using one button (Smart control).
- Automatic Volume Limiting
- Your TV set is equipped with an On-Screen Display system. This system enables the user to see the function on-screen and to control them efficiently.
- Infrared Remote Control
- Your TV will automatically switch off if it's been programmed from 5 to 120 minutes, and it will automatically switch to Stand by five minutes after a channel ceases to transmit.
- Multi language menu system
- Headphone socket
- Scart Socket: Video cassette recorder, satellite receiver, video disc player,DVD, TV games or a home computer can be connected to this AV socket with an appropriate connecting cable.
- Naming the channels
- Teletext reception
- S-Video connection (*)
- Audio/Video RCA sockets (*)
- 4:3 / 16:9 / Letterbox format
- Dolby Digital Sound
- DVD/DVD-R/DVD-RW/VCD/S-VCD/CD AUDIO/CD-R / CD-RW
- MP-3 Playback
- Zoom
- Coaxial audio out
- Optical audio out (*)
- AV Stereo
- Repeat
- Subtittle
- Go to
- (*) : These features are not available in all models.

4. REMOTE CONTROL


Mute
Info/Index page (text)
Reveal
Double heglht text
Page hold
Sub page
Update
TV/Text mix
Direction button
TV/Teletext
TV/DVD
Sound smart control
Standby
Numeric buttons
Two digit
AV
Program up
Direction button
OK
TV Menu
Program down
Menu/Fast text
Swap
1
2
3
4
5
6
7
8
9
AV
0
PR
OK
PR

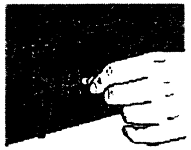
5. PREPARATIONS

MAIN SUPPLY CONNECTIONS

Connect the TV mains plug into your domestic mains socket outlet (230 V 50Hz AC).
Press the Program up, Program down button or Numeric Buttons on the remote handset to switch the TV on.

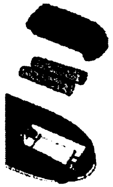
AERIAL CONNECTION

Using a 75Ω aerial lead connect your TV to the aerial outlet in your home.

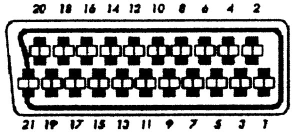


BATTERY FITTING

Insert the 2 AAA Batteries supplied into the compartment on the rear of the remote control, ensure you follow the polarity diagram inside the compartment.

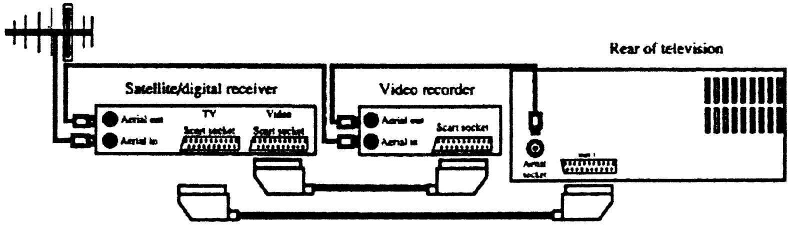


PIN CONNECTIONS FOR SCART SOCKET


20 18 16 14 12 10 8 6 4 2
21 19 17 15 13 11 9 7 5 3 1

1- Audio output Right
2- Audio input Right
3- Audio output Left(Mono)
4- Audio ground
5- Blue ground
6- Audio input Left(Mono)
7- RGB input, Blue
8- Switching voltage
9- Green ground
10-
11- RGB input, Green
12-
13- Red ground
14- Ground
15- RGB input, Red
16- Blanking Signal
17- Video output ground
18- Video input ground
19- Video output
20- Video input
21- Screening

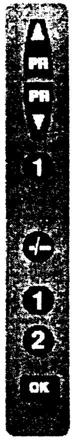
CONNECTING TV WITH VIDEO AND SATELLITE/DIGITALRECEIVER


Rear of television
Satellite/digital receiver
Aerial out
Aerial in
TV
Scart socket
Video
Scart socket
Video recorder
Aerial out
Aerial in
Scart socket
Aerial socket

6. OPERATING YOUR TV

TV controls

Programme selection



Press the + or - buttons on the TV or remote control or press a Numeric button to select a programme.

To select a programme whose number is greater than 9 using the numeric buttons, press the -/-- button first and then press the two Numeric buttons. For example, to select programme 12, press the -/-- button followed by 1 and then 2.

You can also select a program by pressing in the OK button.

Press the OK button and a blue box will appear on the screen with programme numbers on it.

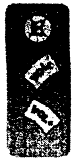
Use the Program ▲ andProgram ▼ buttons to scroll through the programme numbers. When you find the program number you want press the OK button again.
Press the TV/TX or TV MENU button to close the blue box.

Volume

Press the Volume + or Volume – button on the TV or the VOL+ or VOL- button on the remote control. A sound level bar will appear on the screen.

Mute

To mute the sound press the **Mute** button on the remote control. A loudspeaker symbol will appear on the screen.



Press the Mute button again to restore the sound. The symbol will disappear. Pressing VOL+ buttons will decrease the volume without restoring. But pressing the VOL- button will increase the volume without restoring.

Swap

Allows you to swap between the program you are watching and the last selected program. i.e. If you were watching Program 1 and change to Program 11, press the Swap button to go back to Program 1. Press it again to return to Program 11.

PR 01 ➧ (SWAP) *PR 11* ➧ (SWAP) *PR 01*

Info

Press the P100 button and the program number and program name will be displayed for a few seconds.

AV

For use when you are connecting an external source to your TV (Video recorder, DVD player etc.) via the SCART socket or RCA sockets. See 'Connecting external equipment'.
Press the AV button to select your input as follows:

1 Scart models:
1 AV1 when using SCART socket 1.
2 AV2 when using the RCA sockets of the TV. (Optional)
3 AV2-S when using the S-video socket and RCA audio sockets of the TV. (Optional)

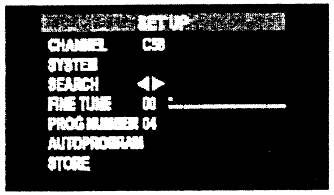
Press the AV button again to return to TV.

Tuning the television

There are two ways of tuning your television: Manual, where you control the tuning process or Autoprogram where the television does it all automatically.

Please Note
If the TV is set to a channel with no signal the TV will return to standby after 5 minutes. The time remaining is displayed on the screen.
Manual tuning
Tuning the TV is accessed through the SETUP menu.

There are two ways to access the SETUP menu:
Press the blue Setup button or Press the TV Menu button and use the Program ▼ button to select SETUP.
Press the OK button to enter the SETUP menu.



SETUP
CHANNEL C58
SYSTEM
SEARCH ◄►
FINE TUNE 00
PROG NUMBER 04
AUTOPROGRAM
STORE

Please note
The system will displayed automatically on SYSTEM row i.e.BG, L, I, DK depending the receiving broadcasting system of the country. In some countries the broadcasting system can be both in BG/DK or BG/LL'. Only the TV sets produced with Pal Secam BG/DK or Pal Secam BG/LL' systems can receive both BG/DK or BG/LL' broadcasts. In this case the user can select the required SYSTEM using ▶/◀ buttons.

Please note
If you do not press any buttons for 15 seconds the TV will exit the menu system.

a) If you don't know the channel number (tuning with search function)

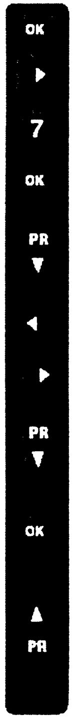
In the Setup menu select PROG NUMBER and change to 01 using the Program ▼ button to select it and the button to change it.
Starting with Program 01, tune in the first channel as follow.
Use the Program ▼ button to select SEARCH.
Press the ▶or◀ button to start the tuning search.
The search arrow will flash and the tuning indicator will move upthe scale. When the search finds a strong channel signal it will stop searching. The picture will appear.

Identify which channel you are watching (BBC 1, ITV 1 etc.) and decide which program number you want it to be.

Use the Program ▼ button to select PROGRAM NUMBER.
Use the / buttons to select the program number.
Use the Program ▼ button to select Store. Press the OK button and STORED will appear on the STORE line.
You have now stored the first channel.

Use the Program ▲ button to select again SEARCH and continue the tuning procedure until you have tuned in all the programmes you want or the television can receive.

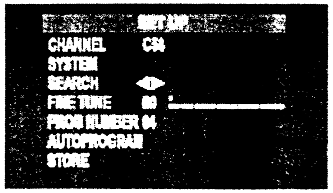
b) If you know the channel number (tuning with channel numbers)



Press the OK button to enter the CHANNEL row.
Use the Program ▼/▲ buttons to select "S" for cable channels and "C" or terrestrial broadcast.
Use ◀ button to select the channel number
Enter the channel number using the Numeric or ◀▶ buttons.
Press the OK button to exit the channel row.
Use the Program ▼ button to select PROGRAM NUMBER.
Use the ◀▶ buttons to select the program number.
Use the Program ▼ button to select STORE. Press the OK button and STORED will appear on the STORE line.
You have now stored the first channel.
Use the Program ▲ button to select again SEARCH and continue the tuning procedure until you have tuned in all the programmes you want or the television can receive.

To exit the SETUP menu press the TV/TX button.

Automatic tuning (Autoprogram)
Enter the SETUP menu as before.



Use the Program ▼ button to select AUTOPROGRAM and press the OK button. A list of countries will appear. Select the desired country using **Program** and **Volume** buttons.

When you are sure the aerial is connected properly press the **OK** button. Autopogram will start. AUTOPROGRAM WORKING will flash.
To cancel Autoprogram whilst it is working press the TV Menu button repetitively.
As Autoprogram stores a channel it will appear briefly on the screen before the search continues.

When Autoprogram has finished it will flash AUTOPROGRAM SORTING whilst it puts the programmes in order and name them, then go to the first programme stored.

Your TV is now tuned and ready to use.

Please note:
If auto sort fails to arrange the programmes in the required sequence please refer to programme organising.

Fine tuning
Although the search and Autoprogram will automatically try and tune to the best reception, in areas of poor reception a bit of fine tuning may be required.

In the SETUP menu use the Program ▲/▼ buttons to select FINE TUNING. Use the Volume up and Volume down buttons to fine tune.

When you have finished use the Program ▼ button to select STORE and press the OK button.

TV Set Up

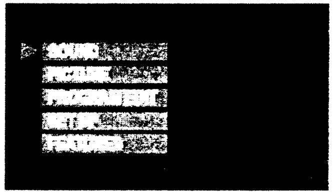
The TV set up is accessed through a menu system.

Once you have stored your set up, this is the set up the TV will default to when you switch it on.

To enter the MAIN menu press the TV Menu button.

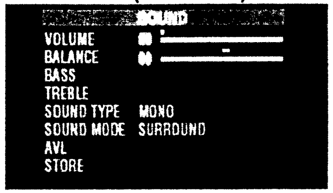
Once in the MAIN menu use the **Program ▲** and **Program ▼** buttons to select items in the menu and the OK to access sub menus or use the coloured fastext and DVD buttons for quick access.

Red button - SOUND
Green button - PICTURE
Blue button - SETUP
Pink button - FEATURES



Please note
If you do not press any buttons for 15 seconds the TV will exit the menu system.

Sound menu (red button)



Select the required item in the menu using the Program ▲/▼ buttons and make the changes pressing / buttons.

Volume
Sets default volume using the VOL+ and VOL- buttons.

To save your settings, select STORE and press the OK button. STORED will be displayed. Press the TV Menu button to go back to the previous menu

Balance
Sets the sound balance when theTV is in stereo mode using the▶ and ◀ buttons.
To save your settings, select STORE and press the OK button. STORED will be displayed. Press the TV Menu button to go back to the previous menu.

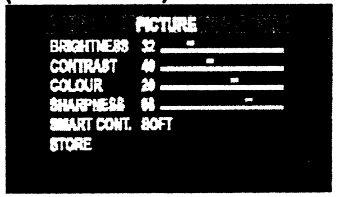
Sound Type
This item shows STEREO when receiving stereo transmission from DVD or AV and MONO for mono transmissions.
To save your settings, select STORE and press the OK button. STORED will be displayed. Press the TV Menu button to go back to the previous menu.

Sound Mode
You can select NORMAL or SURROUND using the ◀▶ buttons.
SURROUND sound is an 'expanded stereo'. It gives the impression that the two speakers in the TV are further apart than they really are.

To save your settings, select STORE and press the OK button. STORED will be displayed. Press the TV Menu button to go back to the previous menu

AVL
TV transmitters have different sound levels. AVL (automatic volume limiting) maintains the same sound level as you switch from program to program. To supply this press Volume + or - button and select ON for AVL.
To save your settings, select STORE and press the OK button. STORED will be displayed. Press the TV Menu button to go back to the previous menu.

Picture menu (Green button)



The picture menu allows you to set up the following:
BRIGHTNESS
CONTRAST
COLOUR
SHARPNESS
To change, for example, the colour,select it using Program buttons.
Use the and buttons to change the setting.
To save your settings, select STORE and press the OK button.STORED will be displayed.

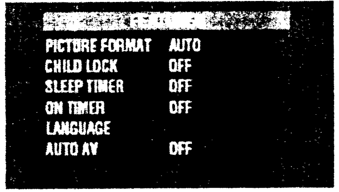
Smart cont.
This gives you a choice of picture type:
SOFT, NATURAL, RICH or USER.

Use the Program ▲ andProgram ▼ buttons to select the type of picture you want. As you select each one the TV picture will change to that type.

USER allows you to set your own picture type as follows:

Use the Program ▼ button to select USER. SelectBRIGHTNESS, CONTRAST, COLOUR and, SHARPNESS using the Program ▲/▼ buttons.
Change the settings with the◀▶ buttons.
To save your settings, select STORE and press the OK button. STORED will be displayed. Press the TV Menu button to go back to the previous menu.

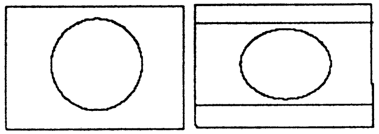
Feature menu
(Pink button)



PICTURE FORMAT AUTO
CHILD LOCK OFF
SLEEP TIMER OFF
ON TIMER OFF
LANGUAGE
AUTO AV OFF

Available formats of 4:3 TV sets are 4:3 and 16:9.

4:3 Sets:
4:3, is the screen format of your tv sets. But you can change the picture format to 16:9 to able to watch the inputs in 16:9 format, i.e. some broadcasts and DVD's.



Once you have switched the TV off the picture format will revert to the stored setting.

To exit the sub-menu press the TV Menu button and return to the main menu.

Child lock
Childlock switches off the programme you are watching when you select it. All other programmes are unaffected. If you go back to the programme with childlock on you will see a black screen with the OSD showing CHILD LOCK. You can lock as many programs as you want.

Press the button to switch the Child lock on or off.

Sleep timer
Allows you to preset the period of time before the TV will switch off automatically.

Press the button to increase the time period in 5 minute steps from 5 minutes to a maximum of 2 hours and to switch the sleep timer off.

The countdown will start immediately. To cancel the sleep timeselect OFF in SLEEP TIMER row by using Volume buttons.

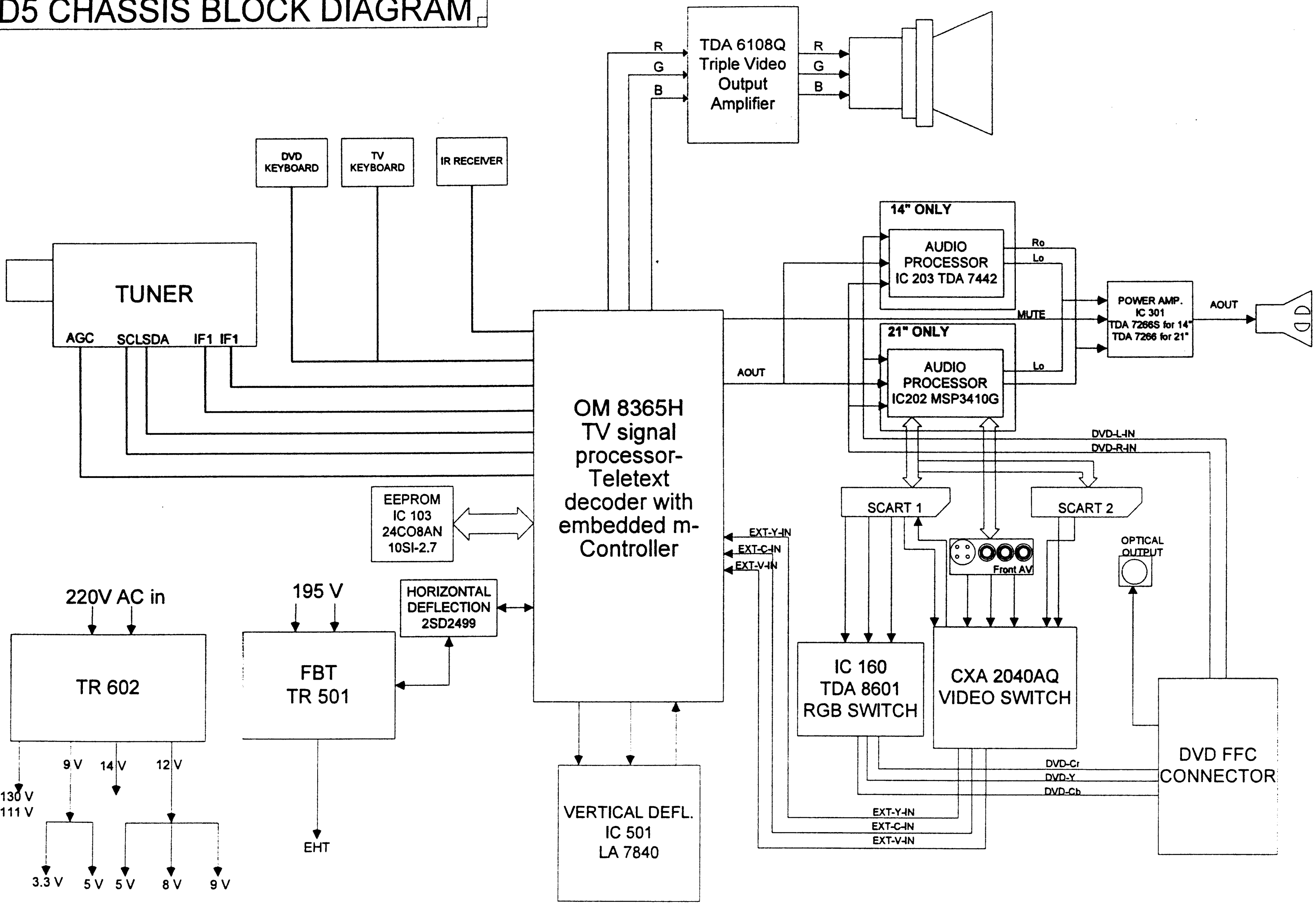
On Timer
Your TV set has a feature which allows the TV to be turned on with your selected program after a pre-selected period ranging from 5 minutes to 12 hours.
Press the "VIOLET" colour button. Choose the AUTO ON line with "PR▲" or "PR▼" button. Using number buttons enter the number of the program that you wish the TV turns on.
You can choose one of the AV's instead of the program number by pressing the "AV" button. You can return to the program number with TV/TXT button. Using ▶ or ◀ button enter the period after which your TV should turn on automatically with 5 minutes steps. Your TV will be turned on the selected program automatically if it is in "stand-by" mode, or will change over to the selected program at the end of this period if it is "on" mode.

Language

There are many languages available for the On Screen Displays (OSD). Press the OK Press the Program ▼ button to page through all the languages and OK to select.

Auto AV
This feature enables you to switch on automaticaly to AV mode to get the picture of an external device whan its connected to your TV.
Select ON to activate this mode by using ◀▶ buttons.

D5 CHASSIS BLOCK DIAGRAM


TDA 6108Q Triple Video Output Amplifier
R
G
B
R
G
B
DVD KEYBOARD
TV KEYBOARD
IR RECEIVER
TUNER
AGC
SCL
SDA
IF1
IF1
14" ONLY
AUDIO PROCESSOR IC 203 TDA 7442
Ro
Lo
POWER AMP. IC 301 TDA 7266S for 14" TDA 7266 for 21"
AOUT
MUTE
21" ONLY
AUDIO PROCESSOR IC202 MSP3410G
Lo
AOUT
OM 8365H TV signal processor-Teletext decoder with embedded m-Controller
EEPROM IC 103 24CO8AN 10SI-2.7
DVD-L-IN
DVD-R-IN
SCART 1
SCART 2
EXT-Y-IN
EXT-C-IN
EXT-V-IN
Front AV
OPTICAL OUTPUT
220V AC in
195 V
HORIZONTAL DEFLECTION 2SD2499
TR 602
FBT TR 501
IC 160 TDA 8601 RGB SWITCH
CXA 2040AQ VIDEO SWITCH
DVD FFC CONNECTOR
DVD-Cr
DVD-Y
DVD-Cb
EXT-Y-IN
EXT-C-IN
EXT-V-IN
9 V
14 V
12 V
21" /130 V
14"/ 111 V
EHT
VERTICAL DEFL. IC 501 LA 7840
3.3 V
5 V
5 V
8 V
9 V

OM 8365

General Description

The OM8365H combine the functions of a video processor together with a μ-Controller, US Closed Caption decoder and Teletext decoder. The Teletext decoder has an internal RAM memory for 10 page text. The ICs are intended to be used in economy television receivers with 110° picture tubes. The ICs have supply voltages of 8 V and 3.3 V and they are mounted in a QFP 80 envelope. The features are given in the following feature list. **FEATURES.**

TV-signal processor

- Multi-standard vision IF circuit with alignment-free PLLdemodulator
- Internal (switchable) time-constant for the IF-AGC circuit
- The QSS and mono FM functionality are both available so that an FM/AM TV receiver can be built without the use of additional ICs
- The mono intercarrier sound circuit has a selective FM-PLL demodulator which can be switched to the different FM sound frequencies (4.5/5.5/6.0/6.5 MHz). The quality of this system is such that the external band-pass filters can be omitted.
- The FM-PLL demodulator can be set to centre frequencies of 4.74/5.74 MHz so that a second sound channel can be demodulated. In such an application it is necessary that an external bandpass filter is inserted.
- The vision IF and mono intercarrier sound circuit can be used for the demodulation of FM radio signals
- Video switch with 2 external CVBS inputs and a CVBS output. One of the CVBS inputs can be used as Y/Cinput.
- 2 external audio inputs. The selection of the variousinputs is coupled to the selection of the CVBS signals
- Integrated chrominance trap circuit
- Integrated luminance delay line with adjustable delay time
- Picture improvement features with peaking (with switchable centre frequency, depeaking, variable positive/negative overshoot ratio and video dependent coring) and white stretching.
- Switchable group delay correction in the CVBS path
- Integrated chroma band-pass filter with switchablecentre frequency• Switchable DC transfer ratio for the luminance signal
- Only one reference (12 MHz) crystal required for the μ-Controller, Teletext- and the colour decoder
- Multi-standard colour decoder with automatic search system
- Internal base-band delay line
- Indication of the Signal-to-Noise ratio of the incoming CVBS signal
- A linear RGB/YUV/YPBPR input with fast blanking for external RGB/YUV sources. The synchronisation circuitcan be connected to the incoming Y signal. The Text/OSD signals are internally supplied from the μ-Controller / Teletext decoder.
- RGB control circuit with 'Continuous Cathode Calibration', white point and black level off-set adjustment so that the colour temperature of the dark and the light parts of the screen can be chosen independently.
- Contrast reduction possibility during mixed-mode of OSD and Text signals
- Adjustable 'wide blanking' of the RGB outputs
- Horizontal synchronization with two control loops and alignment-free horizontal oscillator
- Vertical count-down circuit
- Vertical driver optimized for DC-coupled vertical output stages
- Horizontal and vertical geometry processing
- Horizontal and vertical zoom function for 16:9 applications
- Horizontal parallelogram and bow correction for large screen picture tubes
- Low-power start-up of the horizontal drive circuit

μ-Controller

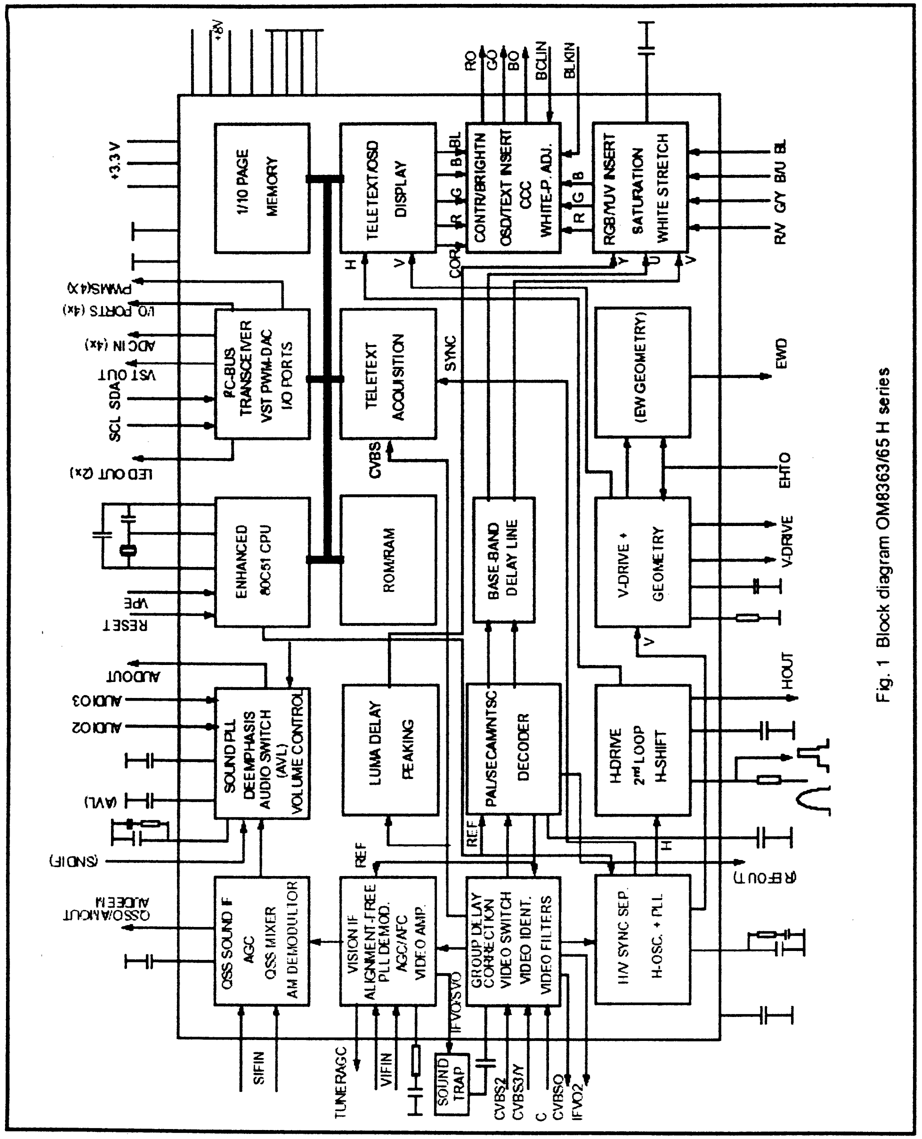
- 80C51 μ-controller core standard instruction set andtiming
- 1 μs machine cycle
- 64 - 96Kx8-bit late programmed ROM
- 12Kx8-bit DataRAM (shared between Display,Acquisition and Auxiliary RAM)
- Interrupt controller for individual enable/disable with twolevel priority
- Two 16-bit Timer/Counter registers
- One 16-bit Timer with 8-bit Pre-scaler
- WatchDog timer
- Auxiliary RAM page pointer
- 16-bit Data pointer
- Stand-by, Idle and Power Down modes
- 14 bits PWM for Voltage Synthesis Tuning
- 8-bit A/D converter with 4 multiplexed inputs
- 5 PWM (6-bits) outputs for control of TV analogue signals
- 18 general I/O ports

Data Capture

- Text memory for 10 pages
- Inventory of transmitted Teletext pages stored in the Transmitted Page Table (TPT) and Subtitle Page Table (SPT)
- Data Capture for US Closed Caption
- Data Capture for 525/625 line WST, VPS (PDC system A) and Wide Screen Signalling (WSS) bit decoding
- Automatic selection between 525 WST/625 WST
- Automatic selection between 625 WST/VPS on line 16 of VBI
- Real-time capture and decoding for WST Teletext in Hardware, to enable optimized μ-processor throughput
- Automatic detection of FASTEXT transmission
- Real-time packet 26 engine in Hardware for processing accented, G2 and G3 characters
- Signal quality detector for video and WST/VPS data types
- Comprehensive teletext language coverage
- Full Field and Vertical Blanking Interval (VBI) datacapture of WST data

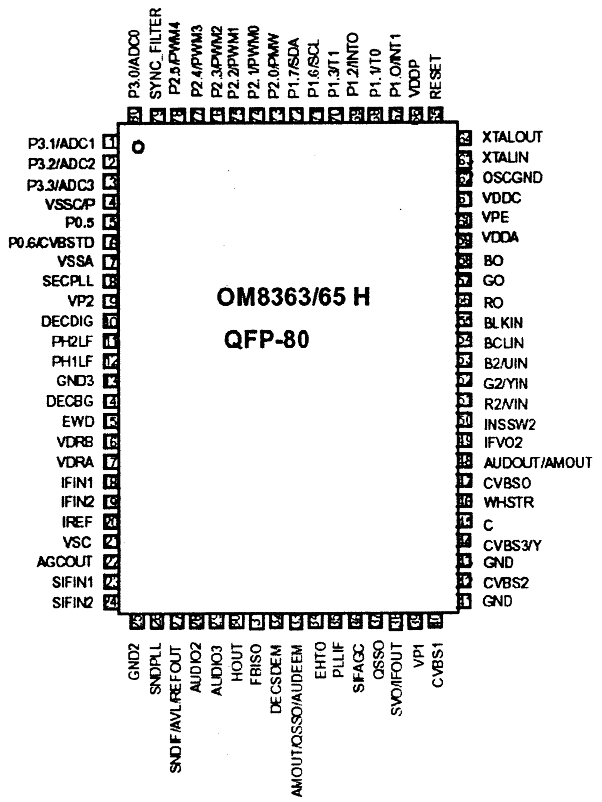
Display

- Teletext and Enhanced OSD modes
- Features of level 1.5 WST and US Close Caption
- Serial and Parallel Display Attributes
- Single/Double/Quadruple Width and Height for characters
- Scrolling of display region
- Variable flash rate controlled by software
- Enhanced display features including overlining, underlining and italics
- Soft colours using CLUT with 4096 colour palette
- Globally selectable scan lines per row (9/10/13/16) and character matrix [12x10, 12x13, 12x16 (VxH)]
- Fringing (Shadow) selectable from N-S-E-W direction
- Fringe colour selectable
- Meshing of defined area
- Contrast reduction of defined area
- Cursor
- Special Graphics Characters with two planes, allowing four colours per character
- 32 software redefinable On-Screen display characters
- 4 WST Character sets (G0/G2) in single device (e.g. Latin, Cyrillic, Greek, Arabic)
- G1 Mosaic graphics, Limited G3 Line drawing characters
- WST Character sets and Closed Caption Character set in single device



1/10 PAGE MEMORY
TELETEXT/OSD DISPLAY
CONTR/BRIGHTN OSD/TEXT INSERT CCC WHITE-P. ADJ.
RGB/YUV INSERT SATURATION WHITE STRETCH
I²C-BUS TRANSCEIVER VST PWM-DAC I/O PORTS
TELETEXT ACQUISITION
(EW GEOMETRY)
ENHANCED 80C51 CPU
ROM/RAM
BASE-BAND DELAY LINE
V-DRIVE + GEOMETRY
SOUND PLL DEEMPHASIS AUDIO SWITCH (AVL) VOLUME CONTROL
LUMA DELAY PEAKING
PAL/SECAM/NTSC DECODER
H-DRIVE 2nd LOOP H-SHIFT
QSS SOUND IF AGC QSS MIXER AM DEMODULATOR
VISION IF ALIGNMENT-FREE PLL DEMOD. AGC/AFC VIDEO AMP.
GROUP DELAY CORRECTION VIDEO SWITCH VIDEO IDENT. VIDEO FILTERS
H/V SYNC SEP. H-OSC. + PLL
SOUND TRAP
+3.3 V
+8V
PWMS(4X)
I/O PORTS (4x)
ADC IN (4x)
VST OUT
SCL SDA
LED OUT (2x)
VPE
RESET
AUDOUT
AUDIO3
AUDIO2
(AVL)
(SNDIF)
QSSO/AMOUT AUDEEM
RO
GO
BO
BCLIN
BLKIN
R/V G/Y B/U BL
EWD
EHTO
V-DRIVE
HOUT
(REFOUT)
SIFIN
TUNERAGC
VIFIN
IFVO/SVO
CVBS2
CVBS3/Y
C
CVBSO
IFVO2
R G B BL
Y U V
H V COR
SYNC
CVBS
REF
H

Fig. 1 Block diagram OM8363/65 H series



OM8363/65 H
QFP-80
P3.1/ADC1 1
P3.2/ADC2 2
P3.3/ADC3 3
VSSC/P 4
P0.5 5
P0.6/CVBSTD 6
VSSA 7
SECPLL 8
VP2 9
DECDIG 10
PH2LF 11
PH1LF 12
GND3 13
DECBG 14
EWD 15
VDRB 16
VDRA 17
IFIN1 18
IFIN2 19
IREF 20
VSC 21
AGCOUT 22
SIFIN1 23
SIFIN2 24
GND2 25
SNDPLL 26
SNDIF/AVL/REFOUT 27
AUDIO2 28
AUDIO3 29
HOUT 30
FBISO 31
DECSDEM 32
AMOUT/QSSO/AUDEEM 33
EHTO 34
PLLIF 35
SIFAGC 36
QSSO 37
SVO/IFOUT 38
VP1 39
CVBS1 40
GND 41
CVBS2 42
GND 43
CVBS3/Y 44
C 45
WHSTR 46
CVBSO 47
AUDOUT/AMOUT 48
IFVO2 49
INSSW2 50
R2/VIN 51
G2/YIN 52
B2/UIN 53
BCLIN 54
BLKIN 55
RO 56
GO 57
BO 58
VDDA 59
VPE 60
VDDC 61
OSCGND 62
XTALIN 63
XTALOUT 64
RESET 65
VDDP 66
P1.0/INT1 67
P1.1/T0 68
P1.2/INT0 69
P1.3/T1 70
P1.6/SCL 71
P1.7/SDA 72
P2.0/PWW 73
P2.1/PWM0 74
P2.2/PWM1 75
P2.3/PWM2 76
P2.4/PWM3 77
P2.5/PWM4 78
SYNC_FILTER 79
P3.0/ADC0 80

Fig.2 Pin configuration (QFP-80)

MSP 34x0G Multistandard Sound Processor Family

General Description

The MSP 3410G family of single-chip Multistandard Sound Processors covers the sound processing of all analog TV -Standards worldwide, as well as the NICAM digital sound standards. The full TV sound processing, starting with analog sound IF signal-in, down to processed analog AF-out, is performed on a single chip

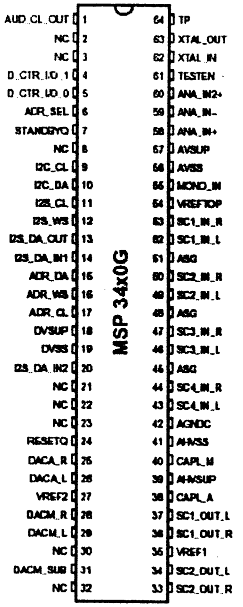
This new generation of TV sound processing ICs now includes versions for processing the multichannel television sound (MTS) signal conforming to the standard recommended by the Broadcast Television Systems Committee (BTSC). The DBX noise reduction, or alternatively, Micronas Noise Reduction (MNR) is performed.

Other processed standards are the Japanese FM-FM multiplex standard (EIA-J) and the FM Stereo Radio standard.

Current ICs have to perform adjustment procedures in order to achieve good stereo separation for BTSC and EIA-J. The MSP 3410G has optimum stereo performance without any adjustments. ,

The MSP 3410G has built-in automatic functions: The IC is able to detect the actual sound standard automatically (Automatic Standard Detection). Furthermore, pilot levels and identification signals can be evaluated internally with subsequent switching between mono/ stereo/bilingual; no I2C interaction is necessary (Automatic Sound Selection).

- The MSP 3410G can handle very high FM deviations even in conjunction with NICAM processing. This is especially important for the introduction of NICAM in China.


MSP 34x0G
AUD_CL_OUT 1
NC 2
NC 3
D_CTR_I/O_1 4
D_CTR_I/O_0 5
ADR_SEL 6
STANDBYQ 7
NC 8
I2C_CL 9
I2C_DA 10
I2S_CL 11
I2S_WS 12
I2S_DA_OUT 13
I2S_DA_IN1 14
ADR_DA 15
ADR_WS 16
ADR_CL 17
DVSUP 18
DVSS 19
I2S_DA_IN2 20
NC 21
NC 22
NC 23
RESETQ 24
DACA_R 25
DACA_L 26
VREF2 27
DACM_R 28
DACM_L 29
NC 30
DACM_SUB 31
NC 32
64 TP
63 XTAL_OUT
62 XTAL_IN
61 TESTEN
60 ANA_IN2+
59 ANA_IN-
58 ANA_IN+
57 AVSUP
56 AVSS
55 MONO_IN
54 VREFTOP
53 SC1_IN_R
52 SC1_IN_L
51 ASG
50 SC2_IN_R
49 SC2_IN_L
48 ASG
47 SC3_IN_R
46 SC3_IN_L
45 ASG
44 SC4_IN_R
43 SC4_IN_L
42 AGNDC
41 AHVSS
40 CAPL_M
39 AHVSUP
38 CAPL_A
37 SC1_OUT_L
36 SC1_OUT_R
35 VREF1
34 SC2_OUT_L
33 SC2_OUT_R

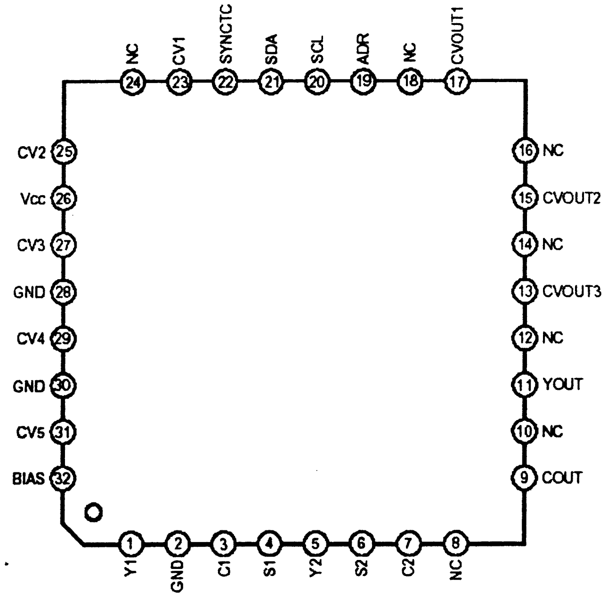
CXA 2040AQ I2C Bus-Compatible Video Switch

General Description

The CXA2040AQ is an I2C bus-compatible 5-input,3-output video switch for TVs.

Features

- Serial data control via I2C bus
- 5 composite video input systems
- 2 Y/C (S terminal) input systems
- 3 composite video output systems
- 1 Y/C (S terminal) output system
- Input can be selected independently for each output system.
- SYNC_ID function for CV1 system input
- Built-in 6dB amplifier for CVOUT2 system output
- Built-in Y/C MIX circuit
- Slave address can be changed (90H/92H).
- High impedance maintained by I2C bus line (SDA, SCL) even when power is OFF.


NC 24
CV1 23
SYNCTC 22
SDA 21
SCL 20
ADR 19
NC 18
CVOUT1 17
CV2 25
Vcc 26
CV3 27
GND 28
CV4 29
GND 30
CV5 31
BIAS 32
16 NC
15 CVOUT2
14 NC
13 CVOUT3
12 NC
11 YOUT
10 NC
9 COUT
1 Y1
2 GND
3 C1
4 S1
5 Y2
6 S2
7 C2
8 NC

TDA8601 RGB/YUV and fast blanking switch

Features

- YUV/RGB and fast blanking switch
- 3-state output
- Selectable clamp:
  - passive (with diodes) or active clamp
- Bandwidth greater than 22 MHz
- Fully ESD protected
- Latch-up free.

Applications

- Standard and high definition television sets
- Peri-television sets.

General Description

The device is intended for switching between two RGB or YUV video sources. The outputs can be set to a high-impedance state to enable parallel connection of several devices. A HIGH level on SEL (pin 5) selects the video inputs of Channel 2. The IOCNTR control pin (pin 16) defines the 3-state outputs and clamp inputs:

- HIGH = 3-state outputs (also for test; active clamp)
- LOW = passive clamp at the video inputs (diode)
- Sandcastle: the video signal is clamped with an active clamp during the sync pulse.

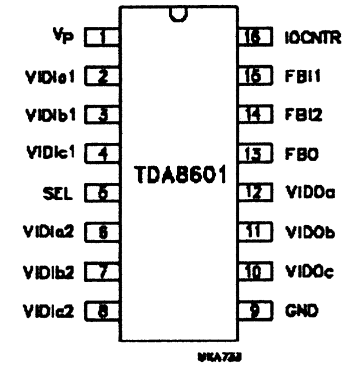

Vp 1
VIDIa1 2
VIDIb1 3
VIDIc1 4
SEL 5
VIDIa2 6
VIDIb2 7
VIDIc2 8
TDA8601
16 IOCNTR
15 FBI1
14 FBI2
13 FBO
12 VIDOa
11 VIDOb
10 VIDOc
9 GND
MKA733

Fig.2 Pin configuration.

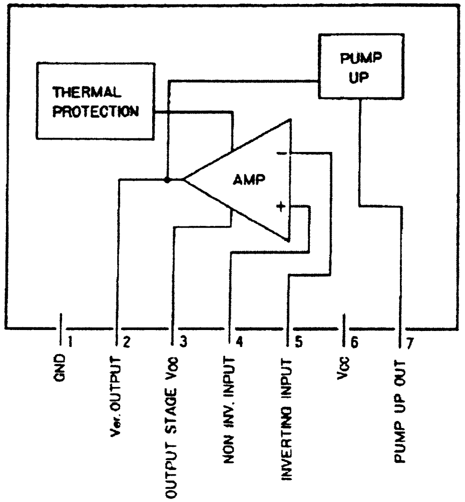
LA7840 Vertical Deflection Output Circuit

General Description

The LA7840 is a vertical deflection output IC for TVs and CRT displays with excellent image quality that use a BUS control system signal processing IC. This IC can drive the direct (even including a DC component) deflection yoke with the sawtooth wave output from the BUS control system signal processing IC. When used in conjunction with Sanyo's LA7615 series of BUS control system signal processing ICs for TVs, this IC can process all color television signal system functions through the BUS system. Because the maximum deflection current is 1.8 Ap-p, the LA7840 is suited for small and medium screen sets.

Features

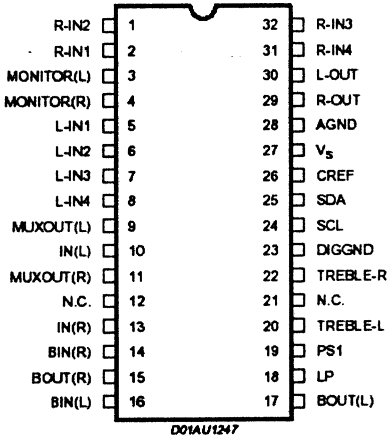
- Low power dissipation due to built-in pump-up circuit
- Vertical output circuit
- Thermal protection circuit built in
- Excellent crossover characteristics
- DC coupling possible


THERMAL PROTECTION
PUMP UP
AMP
-
+
1
2
3
4
5
6
7
GND
Ver. OUTPUT
OUTPUT STAGE Vcc
NON INV. INPUT
INVERTING INPUT
Vcc
PUMP UP OUT

TDA 7442 Digitally Controlled Audio Processor

Description

The TDA7442/42D is volume tone (bass and treble) balance (Left/Right) processors for quality audio applications in TV and Hi-Fi systems. It reproduces surround sound by using a programmable phase shifter. Control of all the functions is accomplished by serial bus. The AC signal setting is obtained by resistor networks and switches combined with operational amplifiers. Thanks to the BIPOLAR/CMOS Technology used, Low Distortion, Low Noise and DC stepping are obtained.


R-IN2 1
R-IN1 2
MONITOR(L) 3
MONITOR(R) 4
L-IN1 5
L-IN2 6
L-IN3 7
L-IN4 8
MUXOUT(L) 9
IN(L) 10
MUXOUT(R) 11
N.C. 12
IN(R) 13
BIN(R) 14
BOUT(R) 15
BIN(L) 16
32 R-IN3
31 R-IN4
30 L-OUT
29 R-OUT
28 AGND
27 V_S
26 CREF
25 SDA
24 SCL
23 DIGGND
22 TREBLE-R
21 N.C.
20 TREBLE-L
19 PS1
18 LP
17 BOUT(L)
D01AU1247

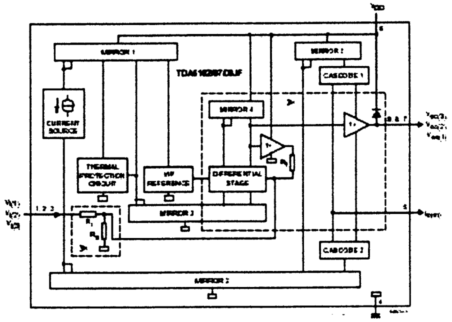
SDIP32

- 4 stereo inputs
- Input attenuation control in 0.5db step
- Treble and bass control
- Two surround mode available with 4 selectable responses:
  - music
  - simulated stereo
- Two speaker attenuators:
  - 2 independent speaker controls
- In 1db steps for balance facility
  - independent mute function
- All functions programmable via serial Bus
- 2 monitor output (only for tda7442)

TDA6108 Triple video output amplifiers

General Description

By integrating three video amplifiers in a single IC, the TDA6108 ICs provides a single IC solution for driving color TV CRTs.
Each device in the TDA6108 family contains three video output amplifiers in plastic DIL-bent-SIL 9-pin medium power (DBS9MPF) package (SOT111-1). Using high-voltage DMOS technology, this enables each of these ICs to drive the three cathodes of a color CRT directly, providing a significant reduction in the Bill Materials for new designs. For maximum performance, the TDA610x amplifiers should be used with black-current control, enabling automatic black current stabilization and removing the need for any external alignments on the CRT board.


CURRENT SOURCE
THERMAL PROTECTION CIRCUIT
DIFFERENTIAL STAGE
CASCODE 1
CASCODE 2

one

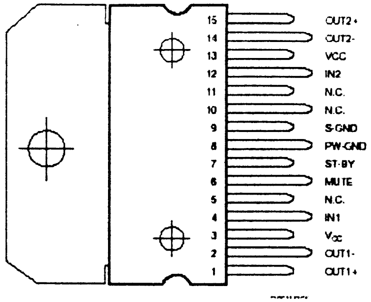
of

TDA7266S 5+5w Dual bridge Amplifier

General Description

The TDA7266S is a dual bridge amplifier specially designed for TV and Portable Radio applications.

- Wide supply voltage range (3-18v)
- Minimum external components
  - – no swr capacitor
  - – no bootstrap
  - – no boucherot cells
  - – internally fixed gain
- Stand-by & mute functions
- Short circuit protection
- Thermal overload protection



9. PIN VOLTAGES OF IC'S

IC101(OM 8365)
TV signal processor-Teletext decoder with embedded m-Controller

PIN	SYMBOL	DESCRIPTION	V DC(*)	PIN	SYMBOL	DESCRIPTION	V DC(*)
1	P3.1/ADC1	port 3.1 or ADC1 input	3,24(3,21)	41	GND	ground for TV processor	0(0)
2	P3.2/ADC2	port 3.2 or ADC2 input	3,24(3,21)	42	CVBS2	external CVBS2 input	3,26(0,2)
3	P3.3/ADC3	port 3.3 or ADC3 input	0(3,17)	43	GND	ground for TV-processor	0(0)
4	VSSC/P	digital ground for m-Controller core and periphery	0(0)	44	CVBS3/Y	CVBS3/Y input	3,26(0,06)
5	P0.5	port 0.5 (8 mA current sinking capability for direct drive of LEDs)	0(0)	45	C	chroma input	1,45(0,23)
6	P0.6/CVBSTD	port 0.6 (8 mA current sinking capability for direct drive of LEDs) or Composite video input. A positive-going 1V(peak-to-peak) input is required	3,2(0)	46	WHSTR	white stretch capacitor	3,38(0)
7	VSSA	analog ground of Teletext decoder and digital ground of TV-processor	0(0)	47	CVBSO	CVBS output	2,87(0,86)
8	SECPLL	SECAM PLL decoupling	2,54(0)	48	AUDOUT /AMOUT(1)	audio output /AM audio output (volume controlled)	3,21(0,01)
9	VP2	2nd supply voltage TV-processor (+8 V)	7,96(1,37)	49	IFVO2	2nd IF video output signal (with or without group delay correction)	2,86(0,01)
10	DECDIG	supply voltage decoupling of digital circuit of TV-processor	4,89(0)	50	INSSW2	2nd RGB / YUV insertion input	0,08(0,03)
11	PH2LF	phase-2 filter	2,8(0)	51	R2/VIN	2nd R input / V (R-Y) input / PR input	2,20(0)
12	PH1LF	phase-1 filter	3,84(0)	52	G2/YIN	2nd G input / Y input	2(0)
13	GND3	ground 3 for TV-processor	0(0)	53	B2/UIN	2nd B input / U (B-Y) input / PB input	2,20(0)
14	DECBG	bandgap decoupling	3,91(0)	54	BCLIN	beam current limiter input	3,81(0)
15	EWD	E-W drive output	0,03(0,03)	55	BLKIN	black current input / V-guard input	5,31(0,01)
16	VDRB	vertical drive B output	0,58(0)	56	RO	Red output	3,34(0,01)
17	VDRA	vertical drive A output	0,60(0)	57	GO	Green output	3,42(0,01)
18	IFIN1	IF input 1	1,81(0)	58	BO	Blue output	3,49(0,01)
19	IFIN2	IF input 2	1,81(0)	59	VDDA	analog supply of Teletext decoder and digital supply of TV-processor (3.3 V)	3,23(0,01)
20	IREF	reference current input	3,77(0)	60	VPE	OTP Programming Voltage	0(3,27)
21	VSC	vertical sawtooth capacitor	3,71(0)	61	VDDC	digital supply to core (3.3 V)	3,26(0)
22	AGCOUT	tuner AGC output	2,08(0,8)	62	OSCGND	oscillator ground supply	0,03(3,27)
23	SIFIN1	SIF input 1	1,83(0)	63	XTALIN	crystal oscillator input	1,59(1,59)
24	SIFIN2	SIF input 2	1,83(0)	64	XTALOUT	crystal oscillator output	1,67(1,67)
25	GND2	ground 2 for TV processor	0(0)	65	RESET	reset	0(0)
26	SNDPLL	narrow band PLL filter	1,58(0)	66	VDDP	digital supply to periphery (+3.3 V)	3,24(3,21)
27	AVL/REF0/SNDIF	Automatic Volume Levelling / subcarrier reference output / sound IF input	0,32(0,32)	67	P1.0/INT1	port 1.0 or external interrupt 1 input	3,24(3,21)
28	AUDIO2	audio 2 input	3,61(0,02)	68	P1.1/T0	port 1.1 or Counter/Timer 0 input	3,24(3,21)
29	AUDIO3	audio 3 input	3,61(0,02)	69	P1.2/INT0	port 1.2 or external interrupt 0 input	4,93(4,95)
30	HOUT	horizontal output	0,37(0)	70	P1.3/T1	port 1.3 or Counter/Timer 1 input	0(3,18)
31	FBISO	flyback input/sandcastle output	0,42(0)	71	P1.6/SCL	port 1.6 or I2C-bus clock line	4,71(4,96)
32	DECSDEM	decoupling sound demodulator	2,36(0)	72	P1.7/SDA	port 1.7 or I2C-bus data line	4,64(4,96)
33	QSSO/AMOUT / AUDEEM	QSS intercarrier output / AM output in stereo applications or deemphasis (front-end audio out) / AM output in mono applications	2,51(0,03)	73	P2.0/TPWM	port 2.0 or Tuning PWM output	4,98(0)
34	EHTO	EHT/overvoltage protection input	1,93(0,34)	74	P2.1/PWM0	port 2.1	0(2,47)
35	PLLIF	IF-PLL loop filter	2,37(0)	75	P2.2/PWM1	port 2.2	3,22(2,93)
36	SIFAGC	AGC sound IF	2,17(0,3)	76	P2.3/PWM2	port 2.3	0,03(0,06)
37	QSSO	QSS output	0(0,67)	77	P2.4/PWM3	port 2.4	0(0)
38	IFVO/SVO	IF video output / selected CVBS output	2,95(0)	78	P2.5/PWM4	port 2.5	3,24(3,18)
39	VP1	main supply voltage TV processor	7,79(1,38)	79	SYNC_FILTER	CVBS (i.e. P0.6/CVBS) Sync filter input: This pin should be connected to VSSA	0,06(0,06)
40	CVBS1	internal CVBS input	3,71(0)	80	P3.0/ADC0	port 3.0 or ADC0 input	3,24(3,21)

(*) Stand-by values are given the parenthessis

NOTE: The function of pin 15, 27, 33 and 48 is dependent on the mode of operation (mono intercarrier mode / QSS IF amplifier) and is controlled by some software control bits.

IC 301(MSP 34XOG) Multistandard Sound Processor							
PIN	SYMBOL	DESCRIPTION	V DC(*)	PIN	SYMBOL	DESCRIPTION	V DC(*)
1	AUD_CL_OUT	Audio clock output (18.432 MHz)	2,54(0,06)	33	SC2_OUT_R	SCART output 2, right	3,72(0)
2	NC	Not connected	0(0)	34	SC2_OUT_L	SCART output 2, left	3,72(0)
3	NC	Not connected	0(0)	35	VREF1	Reference ground 1	0(0)
4	D_CTR_I/0_1	D_CTR_I/O_1	0,03(0,08)	36	SC1_OUT_R	SCART output 1, right	3,72(0,03)
5	D_CTR_I/0_0	D_CTR_I/O_0	0,03(0,08	37	SC1_OUT_L	SCART output 1, left	3,72(0,03)
6	ADR_SEL	I2C Bus address select	2,49(0,07)	38	CAPL_A	Volume capacitor AUX	6,83(1,35)
7	STANDBYQ	Stand-by (low-active)	4,94(0)	39	AHVSUP	Analog power supply 8 V	7,96(1,37)
8	NC	Not connected	0(0)	40	CAPL_M	Volume capacitor MAIN	6,83(1,35)
9	I2C_CL	I2C clock	4,71(4,96)	41	AHVSS	Analog ground	0(0)
10	I2C_DA	I2C data	4,64(4,96)	42	AGNDC	Analog reference voltage	3,72(0,48)
11	I2S_CL	I2S clock	2,45(0,07)	43	SC4_IN_L	SCART 4 input, left	3,72(0,32)
12	I2S_WS	I2S word strobe	2,45(0,07)	44	SC4_IN_R	SCART 4 input, right	3,72(0,32)
13	I2S_DA_OUT	I2S data output	2,45(0,07)	45	ASG	Analog Shield Ground	0(0)
14	I2S_DA_IN1	I2S1 data input	0,47(0,07)	46	SC3_IN_L	SCART 3 input, left	3,72(0,32)
15	ADR_DA	ADR data output	0,42(0,08)	47	SC3_IN_R	SCART 3 input, right	3,72(0,32)
16	ADR_WS	ADR word strobe	0,42(0,08)	48	ASG	Analog Shield Ground	0(0)
17	ADR_CL	ADR clock	0,42(0,08)	49	SC2_IN_L	SCART 2 input, left	3,72(0,32)
18	DVSUP	Digital power supply 5 V	4,87(0)	50	SC2_IN_R	SCART 2 input, right	3,72(0,32)
19	DVSS	Digital ground	0,03(0)	51	ASG	Analog Shield Ground	0(0)
20	I2S_DA_IN2	I2S2-data input	0,3(0,08)	52	SC1_IN_L	SCART 1 input, left	3,72(0,32)
21	NC	Not connected	0(0)	53	SC1_IN_R	SCART 1 input, right	3,72(0,32)
22	NC	Not connected	0(0)	54	VREFTOP	Reference voltage IF A/D converter	2,57(0)
23	NC	Not connected	0(0)	55	MONO_IN	Mono input	3,73(0,32)
24	RESETQ	Power-on-reset	4,94(0,02)	56	AVSS	Analog ground	0(0)
25	DACA_R	Headphone out, right	0,31(0,01)	57	AVSUP	Analog power supply 5 V	4,89(0)
26	DACA_L	Headphone out, left	0,31(0,01)	58	ANA_IN+	IF input 1	1,50(0,08)
27	VREF2	Reference ground 2	0(0)	59	ANA_IN-	IF common (can be left vacant, only if IF input 1 is also not in use)	1,50(0,08)
28	DACM_R	Loudspeaker out, right	0,3(0)	60	ANA_IN2+	IF input 2 (can be left vacant, only if IF input 1 is also not in use)	0,52(0,07)
29	DACM_L	Loudspeaker out, left	0,3(0)	61	TESTEN	Test pin	0(0)
30	NC	Not connected	0(0)	62	XTAL_IN	Crystal oscillator	2,36(0)
31	DACM_SUB	Subwoofer output	0,26(0)	63	XTAL_OUT	Crystal oscillator	2,33(0)
32	NC	Not connected	0(0)	64	TP	Test pin	0,6(0)

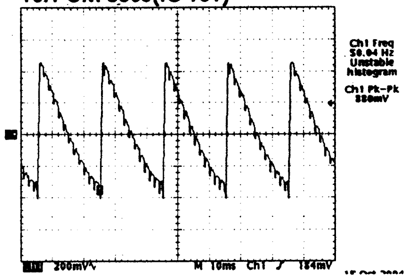
IC 201(CXA 2040AQ) I2C Bus-Compatible Video Switch							
PIN	SYMBOL	DESCRIPTION	V DC(*)	PIN	SYMBOL	DESCRIPTION	V DC(*)
1	Y1	Luminance signal input 1	4,43(0)	17	CVOUT1	Composite Video signal 0dB output 1	4,50(0,28)
2	GND	Ground	0(0)	18	NC	Not Connected	0(0)
3	C1	Chrominance signal input 1	4,43(0)	19	ADR	Selects the Address Slave	0(0)
4	S1	Select 1	0,01(0)	20	SCL	I2S bus	4,71(4,96)
5	Y2	luminance signal input 2	4,43(0)	21	SDA	I2S bus	4,64(4,96)
6	S2	select 2	0,01(0)	22	SYNCTC		0,35(0,02)
7	C2	Chrominance signal input 2	4,43(0)	23	CV1	Composite Video signal input 1	3,14(0,01)
8	NC	Not Connected	0(0)	24	NC	Not Connected	0(0)
9	COUT	Chrominance signal output	4,45(0,02)	25	CV2	Composite Video signal input 2	4,45(0)
10	NC	Not Connected	0(0)	26	VCC	Supply voltage	8,90(0)
11	YOUT	luminance signal output	4,45(0,02)	27	CV3	Composite Video signal input 3	4,45(0)
12	NC	Not Connected	0(0)	28	GND	Ground	0(0)
13	CVOUT3	Composite Video signal 0dB output 3	4,45(0,02)	29	CV4	Composite Video signal input 4	4,45(0)
14	NC	Not Connected	0(0)	30	GND	Ground	0(0)
15	CVOUT2	Composite Video signal 6bB output 2	4,45(0,02)	31	CV5	Composite Video signal input 5	4,45(0)
16	NC	Not Connected	0(0)	32	BIAS		4,45(0)

IC 160(TDA 8601) RGB/YUV and Fast Blanking Switch							
PIN	SYMBOL	DESCRIPTION	V DC(*)	PIN	SYMBOL	DESCRIPTION	V DC(*)
1	Vp	Supply Voltage(8 V)	8(1,37)	9	GND	Ground	0(0)
2	VIDIa1	Video input a (channel 1)	1,27(0.5)	10	VIDOc	Video output c	1,2(0,01)
3	VIDIb1	Video input b (channel 1)	1,48(0.5)	11	VIDOb	Video output b	1,2(0,01)
4	VIDIc1	Video input c (channel 1)	1,26(0.5)	12	VIDOa	Video output a	1,2(0,01)
5	SEL	Channel Selection	3,18(2.25)	13	FBO	Fast Blanking output signal	0,17(0,02)
6	VIDIa2	Video input a (channel 2)	1,25(1.2)	14	FBI2	Fast Blanking input signal(Ch. Sig. 1)	0,06(0)
7	VIDIb2	Video input b (channel 2)	1,25(1.2)	15	FB1I	Fast Blanking input signal(Ch. Sigl2)	0,06(0)
8	VIDIc2	Video input c (channel 2)	1,25(1.2)	16	IOCNTR	Control of video input or video output	0,15(0)

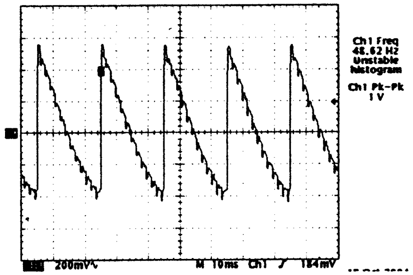
10. OSCILLOSGRAPHS OF SOME IC PINS

Note : A pattern Generator is connected to the TV (Colour Bar, sound 1 kHZ)

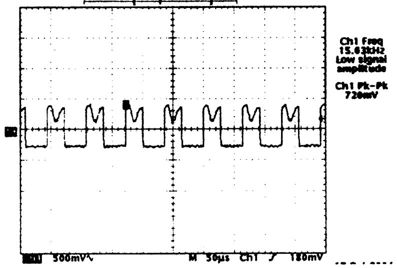
10.1 OM 8365(IC 101)



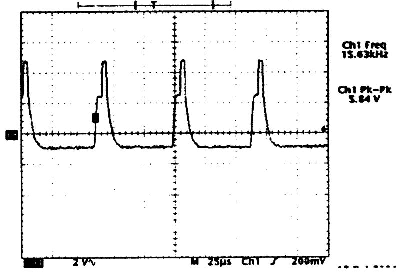
Pin 16 200 mV/div, 10 msn/div, Vpp=880 mV, 15625 kHz



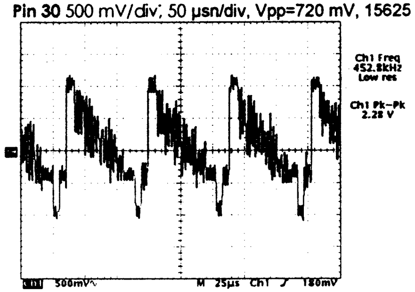
Pin 17 200 mV/div, 10 msn/div, Vpp=1 V, 15625 kHz



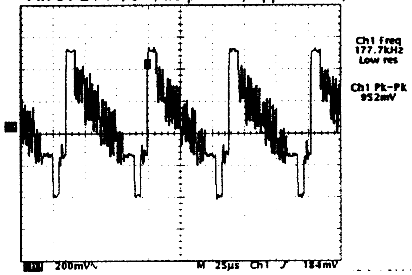
Pin 30 500 mV/div; 50 µsn/div, Vpp=720 mV, 15625 kHz



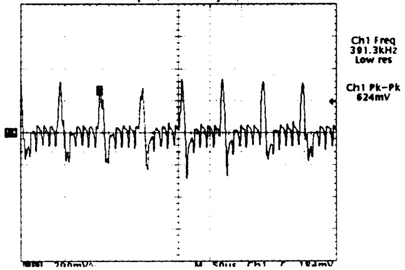
Pin 31 2 mV/div, 25 µsn/div, Vpp=5.84 V, 15625 kHz



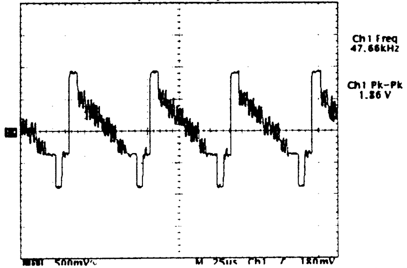
Pin 38 500 mV/div, 25 µsn/div, Vpp=2.28 V, 15625 kHz



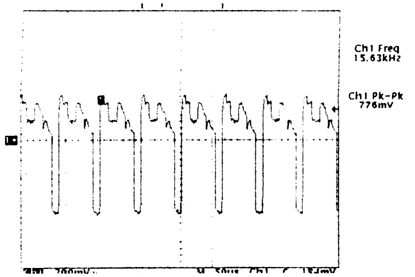
Pin 40 200 mV/div, 25 µsn/div, Vpp=952 mV, 15625 kHz



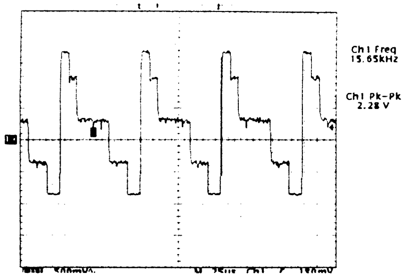
Pin 45 200 mV/div, 50 µsn/div, Vpp=624 mV, 15625 kHz



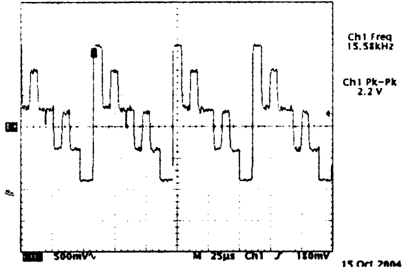
Pin 47 500 mV/div, 25 µsn/div, Vpp=1.86 V, 15625 kHz



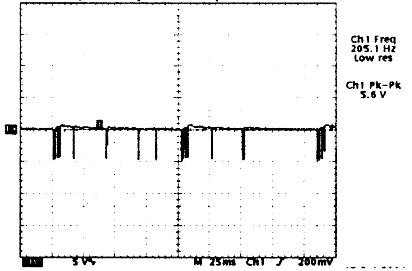
Pin 56 200 mV/div, 50 µsn/div, Vpp=770 mV, 15625 kHz



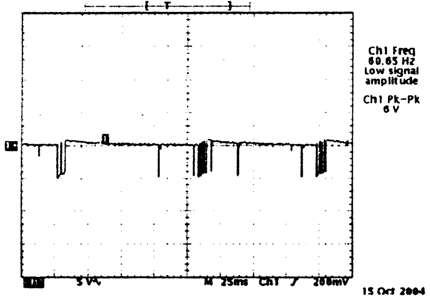
Pin 57 500 mV/div, 25 µsn/div, Vpp=2.28 V, 15625 kHz



Pin 58 500 mV/div, 25 µsn/div, Vpp=2.2 V, 15625 kHz

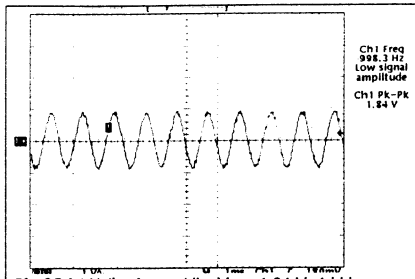


Pin 71 5 V/div, 25 msn/div, Vpp=5.6 V, 15625 kHz

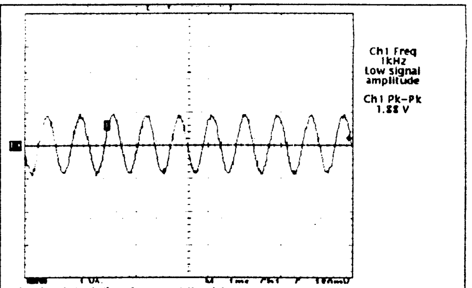


Pin 72 5 V/div, 25 msn/div, Vpp=5 V, 15625 kHz

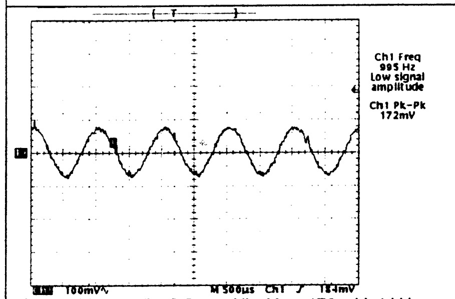
10.2 MSB 341OG(IC 20)



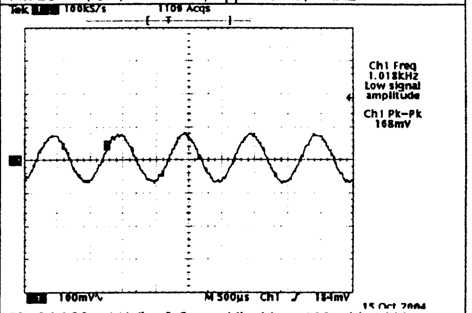
Pin 25 1 V/div, 1 msn/div, Vpp=1.84 V, 1 kHz



Pin 26 1 V/div, 1 msn/div, Vpp=1.88 V, 1 kHz



Pin 33 100 mV/div, 0.5 msn/div, Vpp=172 mV, 1 kHz



Pin 34 100 mV/div, 0.5 msn/div, Vpp=168 mV, 1 kHz

11.1. ELECTRICAL ADJUSTMENTS

11.1.1. Supply Voltage Adjustment

Connect a digital voltmeter to the cathode of diode D627 at the AV1 mode of the TV and set the screen voltage to the minimum with the screen potentiometer. Adjust the main supply voltage (B+) with P601 potentiometer to the values shown in table below.(after adjustment, readjust Screen voltage).

Size	CRT Type	Voltage
14	056314-EK3	111V
14	056314-EK5	111V
14	056314-PH3	111V
14	056314-PH7	111V
14	056314-PH8	111V
21	056321-GS9	130V
21	056321-VC0	132V
21	056321-VC7	132V

11.2. SERVICE ADJUSTMENTS

To enter service mode, press "Menu" and then press "9301" on user remote control.
Press "0" button to exit the Service Mode.
Whilst exiting from the Service Mode, the version and the date of the software are seen on the screen for few seconds, as belows.

VER SD5965_A01
OF96
T01040818

Navigation

P+ / P- : Moves upward / downward inside the menu
V+ / V- : Changes the values or options

11.2.1. AGC Adjustment

- Switch on the Service Menu
- Find the "AGC" with P+/P-
- Set its value to 33 for 14" and 21" Tv's
- Find the "TEST" with P+/P-
- Set its value to 35 for 14" and 21" Tv's
- Exit from the service menu.

11.2.2. Geometry and Function Adjustments

- Apply a Cross Hatch Test pattern.
- Enter Service Menu with Service RC and select "VSLP" option with P+ / P- buttons (In this option, the upper half part of the pattern is shown and lower half part is blanked).
- Adjust "VSLP" such that middle line of the pattern is cut.
- For 16/9 sets, adjust "VZOM" to 35. For 4/3 sets, when "VZOM" is selected, set switches to 16/9 mode. In this case, adjust the circle of the pattern just touches to the upper and lower edges. Re-adjust the "VSLP" in case of the picture appears to be lower or upper.
- Adjust vertical position with "VSHT", vertical linearity with "SCOR" and vertical height with "VAMP".
- Adjust horizontal centering with "HSHT", parabola with "EWPW" and trapezium with "EWT".
- For 4/3 sets, adjust the 16/9 general parabola with "EWP1".
- For 4/3 sets, adjust the horizontal amplitude with "EWW".
- Adjust the horizontal parallelogram with "HPAR" and horizontal bow with "HBOW".

11.2.3. Screen Adjustment

- Enter the Service Menu with the Service RC and select "SCRN" option with P+ / P- buttons and switch to ON with V+ / V- button, "BRI 00" will be seen on the screen.
- Adjust the screen potentiometer until the "BRI 00" is first seen on the screen
- By pressing one of V+ / V- buttons, get the picture back.(SCRN is switched to Off).
- Exit from the Service menu.

11.2.4. White Balance Adjustment

- Enter the Service Menu with the Service RC and select "GRN" option with P+ / P- buttons and adjust it to "32" V+ / V- button.
- Adjust RED and BLUE for white balance. If white balance can not be adjusted properly change GRN value.
- Adjust BLOR and BLOG for red and green cut off.
- Exit from the Service menu.

11.2.5. Feature Options

TUNER : Panasonic, Philips (for Philips or Thomson tuner), Sharp, Temic
Note: Thomson tuner can be used only for PAL BG or PAL-SECAM BG versions.
HEAD : Yes (Headphone available), No
VZOM : For 14", set "35"; For 21", set "25"
SSTD : BG only, I only, BG+DK, BG + LL', All SYS
STYP : NICAM On (available), NICAM Off
TOPTEXT : Yes (available), No
TXT TABLE : WEST (West Europe); for English, German, Swedish, Italian, French, Spanish, Turkish, Finnish, Hungarian, Portuguese.
EAST (East Europe); Polnisch, Serbian, Croatian, Czech, Slovak, Romanian, Estonian, Slovenian
GREEK; Greek, English, German, French, Turkish, Swedish, Italian, Slovenian
HOTEL : On for Hotel TV mode, Off for normal TV mode
SUBWOOFER : Yes (available), No STD
CRT : 4/3, 16/9
AAV : Yes (Auto AV switching is active), No (Deactive).
PAL : Yes (PAL only versions), No (Other versions)
DBAS : Yes (Dinamic bass is active), No
SCART2 : On when Scart2 is inserted, Off when not.

F-AV : On when Front-AV is inserted, Off when not.
F-SVHS : On when F-SVHS connector is inserted, Off when not.
AV ST CURVE : Changes the linearity of volume increase/degrease
NTSC : On when NTSC playback is open, Off when not.

11.2.6. Factory Settings for Service Mode

1. Values given in Table 1 are typical values and can vary according to the CRT type.
2. PF means Pure Flat and SF means Super Flat.
3. The values in the table are decimal and shown in paranthesis on the OSD of TV.

		14"	21" PF
AGC	Automatic gain control	33	33
STD	Stand by option	OFF	OFF
EEPE	Reset the eeprom, all values lost	00	00
PEAK	Peaking	32	32
SCRN	Screen	OFF	OFF
GRN	Green level	32	32
RED	Red level	30	30
BLUE	Blue level	30	30
BLOG	Black level offset green	30	30
BLOR	Black level offset red	36	36
YDLY	Luminance delay	14	14
SAT	Saturation	20	20
HUE	Sharpness	32	32
CON	Contrast	32	32
CDR	Cathode Drive Level	02	02
BRI	Brightness	32	32
EWT	East West Trapezium	28	28
EWCU	EW upper corner	32	32
EWCL	EW lower corner	32	32
EWPW	EW parabola width	17	17
HSHT	Horizontal shift	32	32
EWW	East West Width	60	60
VAMP	Vertical amplitude	35	35
SCOR	S correction	25	25
VSHT	Vertical shift	28	28
VSLP	Vertical slope	34	34
RGB	OSD brightness level	01	01
PWLT	Peak white limiting	09	09
IFOF	Offset IF demodulator	32	32
HPAR	Horizontal parallelogram	32	32
HBOW	Horizontal bow	32	32
TEST	Added for EMC purposes (=AGC-5)	35	35
EWP1	16/9 EW parabola width (for only 4/3 sets)	08	08
VOL	Volume Level	50	50

CHANNEL FRQENCY TABLE (BG,I,DK,LL')

CHANNEL NO	BG	I	DK	L/L'			
CH1		49.75	49.75	47.75			
CH2	48.25	59.25	59.25	55.75			
CH3	55.25	77.25	77.25	60.50			
CH4	62.25	85.25	85.25	63.75			
CH5	175.25	93.25	93.25	176.00			
CH6	182.25	175.25	175.25	184.00			
CH7	189.25	183.25	183.25	192.00			
CH8	196.25	191.25	191.25	200.00			
CH9	203.25	199.25	199.25	208.00			
CH10	210.25	207.25	207.25	216.00			
CH11	217.25	215.25	215.25	189.25			
CH12	224.25	223.25	223.25	182.25			
CH13	53.75	45.75		198.25			
CH14	62.25	53.75		210.25			
CH15	82.25	61.75					
CH16	175.25	69.75					
CH17	183.25	95.25					
CH18	192.25						
CH19	201.25						
CH20	210.25						
CH21	471.25	471.25	471.25	471.25			
CH22	479.25	479.25	479.25	479.25			
CH23	487.25	487.25	487.25	487.25			
CH24	495.25	495.25	495.25	495.25			
CH25	503.25	503.25	503.25	503.25			
CH26	511.25	511.25	511.25	511.25			
CH27	519.25	519.25	519.25	519.25			
CH28	527.25	527.25	527.25	527.25			
CH29	535.25	535.25	535.25	535.25			
CH30	543.25	543.25	543.25	543.25			
CH31	551.25	551.25	551.25	551.25			
CH32	559.25	569.25	559.25	559.25			
CH33	567.25	567.25	567.25	567.25			
CH34	575.25	575.25	575.25	575.25			
CH35	583.25	583.25	583.25	583.25			
CH36	591.25	591.25	591.25	591.25			
CH37	599.25	599.25	599.25	599.25			
CH38	607.25	607.25	607.25	607.25			
CH39	615.25	615.25	615.25	615.25			
CH40	623.25	623.25	623.25	623.25			
CH41	631.25	631.25	631.25	631.25			
CH42	639.25	639.25	639.25	639.25			
CH43	647.25	647.25	647.25	647.25			
CH44	655.25	655.25	655.25	655.25			
CH45	663.25	663.25	663.25	663.25			
CH46	671.25	671.25	671.25	671.25			
CH47	679.25	679.25	679.25	679.25			
CH48	687.25	687.25	687.25	687.25			
CH49	695.25	695.25	695.25	695.25			
CH50	703.25	703.25	703.25	703.25			
CH51	711.25	711.25	711.25	711.25			
CH52	719.25	719.25	719.25	719.25			
CH53	727.25	727.25	727.25	727.25			
CH54	735.25	735.25	735.25	735.25			
CH55	743.25	743.25	743.25	743.25			
CH56	751.25	751.25	751.25	751.25			
CH57	759.25	759.25	759.25	759.25			
CH58	767.25	767.25	767.25	767.25			
CH59	775.25	775.25	775.25	775.25			

CH60	783.25	783.25	783.25	783.25			
CH61	791.25	791.25	791.25	791.25			
CH62	799.25	799.25	799.25	799.25			
CH63	807.25	807.25	807.25	807.25			
CH64	815.25	815.25	815.25	815.25			
CH65	823.25	823.25	823.25	823.25			
CH66	831.25	831.25	831.25	831.25			
CH67	839.25	839.25	839.25	839.25			
CH68	847.25	847.25	847.25	847.25			
CH69	855.25	855.25	855.25	855.25			
CH70				863.25			
CH71							
CH72							
CH73							
CH74	69.25						
CH75	76.25						
CH76	83.25						
CH77	90.25						
CH78	97.25						
CH79	59.25						
CH80	93.25						
S1	105.25	103.25	103.25	116.75			
S2	112.25	111.25	111.25	128.75			
S3	119.25	119.25	119.25	140.75			
S4	126.25	127.25	127.25	152.75			
S5	133.25	135.25	135.25	164.75			
S6	140.25	143.25	143.25	176.75			
S7	147.25	151.25	151.25	188.75			
S8	154.25	159.25	159.25	200.75			
S9	161.25	167.25	167.25	212.75			
S10	168.25	231.25	231.25	224.75			
S11	231.25	239.25	239.25	236.75			
S12	238.25	247.25	247.25	248.75			
S13	245.25	255.25	255.25	260.75			
S14	252.25	263.25	263.25	272.75			
S15	259.25	271.25	271.25	284.75			
S16	266.25	279.25	279.25	296.75			
S17	273.25	287.25	287.25	55.75			
S18	280.25	295.25	295.25	60.50			
S19	287.25	303.25	303.25	63.75			
S20	294.25						
S21	303.25			303.25			
S22	311.25	311.25	311.25	311.25			
S23	319.25	319.25	319.25	319.25			
S24	327.25	327.25	327.25	327.25			
S25	335.25	335.25	335.25	335.25			
S26	343.25	343.25	343.25	343.25			
S27	351.25	351.25	351.25	351.25			
S28	359.25	359.25	359.25	359.25			
S29	367.25	367.25	367.25	367.25			
S30	375.25	375.25	375.25	375.25			
S31	383.25	383.25	383.25	383.25			
S32	391.25	391.25	391.25	391.25			
S33	399.25	399.25	399.25	399.25			
S34	407.25	407.25	407.25	407.25			
S35	415.25	415.25	415.25	415.25			
S36	423.25	423.25	423.25	423.25			
S37	431.25	431.25	431.25	431.25			
S38	439.25	439.25	439.25	439.25			
S39	447.25	447.25	447.25	447.25			
S40	455.25	455.25	455.25	455.25			
S41	463.25	463.25	463.25	463.25			

InstPoint	Object Description	Component	Statement
302289	DIODE 1N4148 52MM	302289	
AQUA	CABLE BROWN L=500	500545-AS	
C01	C-ELA 47UF M 6.3V 11*5 R:5	251487	
C02-C03	CC-CHIP 100PF J 50V /1206 NPO	291101	
C101-C104	CC-CHIP 56PF J 50V NPO 0805	290561	
C105-C106	C-CEA 10NF M 16V Y5P /3.2 52MM AXIAL	208101	
C107	EC 47UF 63V 11*6.3 R:5	251475	
C108	C-PEM 10NF J 100V R:5	273121	
C109	EC 100UF 16V 11*6 R:5	252112	
C110-C112	CC-CHIP 10NF K 50V /0805 X7R	293108	
C113	EC 10UF 16V 5*3.5 R:5	251105	
C114	C-CEA 10NF M 16V Y5P /3.2 52MM AXIAL	208101	
C115	EC 220UF 16V 11*8 R:5	252229	
C116	CC-CHIP 220NF K 16V /0805 X7R	294231	
C117	EC 100UF 16V 11*6 R:5	252112	
C119-C121	CC-CHIP 220NF K 16V /0805 X7R ⚠	294231	
C122	EC 1UF 100V 11*5 R:5	250105	
C123	CC-CHIP 100NF K 50V /0805 X7R	294109	
C124	EC 2.2UF 16V 11*5 R:5	250227	
C125-C126	CC-CHIP 1NF K 50V /0805 X7R	292110	
C127	C-PEM 100NF J 100V R:5	274107	
C128-C129	CC-CHIP 22NF K 50V /0805 X7R	293230	
C131-C133	EC 10UF 16V 5*3.5 R:5	251105	
C135-C136	CC-CHIP 150PF J 50V /0805 NP0	291152	
C138	EC 2.2UF, 63V 11*5 R:5	259223	
C144	EC 100UF 16V 11*6 R:5	252112	
C147	C-PEM 100NF J 100V R:5	274107	
C149	EC 10UF 50V RS 11*5 TAPING R=5MM	251112	
C150-C152	CC-CHIP 68PF J 50V /0805 NPO	290684	
C153	EC 100UF 16V 11*6 R:5	252112	
C154-C158	CC-CHIP 10NF K 50V /0805 X7R	293108	
C159-C160	EC 100UF 16V 11*6 R:5	252112	
C161	CC-CHIP 470PF K 50V /0805 X7R	291473	
C162-C164	EC 47UF 16V 11*5 R:5	251478	
C165	EC 100UF 16V 11*6 R:5	252112	
C166-C169	C-PEM 470NF J 100V R:5	274483	
C170	CC-CHIP 4.7NF K 50V /0805 X7R	292476	
C171	CC-CHIP 22PF J 50V /0805 NPO	290222	
C172	CC-CHIP 100NF K 50V /0805 X7R	294109	
C173	CC-CHIP 47NF K 50V /0805 X7R	293474	
C174	CC-CHIP 100NF K 50V /0805 X7R	294109	
C175	CC-CHIP 1NF K 50V /0805 X7R	292110	
C176	CC-CHIP 56PF J 50V NPO 0805	290561	
C178-C179	CC-CHIP 1NF K 50V /0805 X7R	292110	
C182	RC-CHIP 0R /0805 2*1.25	179001	
C191	CC-CHIP 1NF K 50V /0805 X7R	292110	
C191-C192	CC-CHIP 1NF J 50V/0805 NPO	292106	
C193	CC-CHIP 1NF K 50V /0805 X7R	292110	
C193	C-PEM 47NF K 63V R:5	273471	
C194	CC-CHIP 1NF K 50V /0805 X7R	292110	
C194	C-PEM 47NF K 63V R:5	273471	
C195-C196	CC-CHIP 1NF J 50V/0805 NPO	292106	
C200	EC 4.7UF 50V 11*5 R:5	250479	
C201	EC 220UF 16V 11*8 R:5	252229	
C202-C204	EC 4.7UF 50V 11*5 R:5	250479	
C205-C206	CC-CHIP 1NF K 50V /0805 X7R	292110	
C207-C210	C-CEA 470PF K 50V 3.2/52MM AXIAL	208470	
C211-C212	EC 22UF 16V 11*5 R:5	251225	
C213	EC 220UF 16V 11*8 R:5	252229	
C214-C215	CC-CHIP 1NF K 50V /0805 X7R	292110	
C216-C219	C-CEA 470PF K 50V 3.2/52MM AXIAL	208470	
C220-C221	EC 22UF 16V 11*5 R:5	251225	
C222-C225	C-PEM 330NF J 100V R:5	274346	
C226-C227	CC-CHIP 10NF K 50V /0805 X7R	293108	
C228-C232	EC 4.7UF 50V 11*5 R:5	250479	
C233	CC-CHIP 10NF K 50V /0805 X7R	293108	
C234	EC 33UF 25V 11*5 R:5	251339	
C235-C236	C-PEM 470NF J 100V R:5	274483	
C239	EC 10UF 16V 5*3.5 R:5	251105	
C240	CC-CHIP 10NF K 50V /0805 X7R	293108	
C241	EC 10UF 16V 5*3.5 R:5	251105	
C242-C245	CC-CHIP 10NF K 50V /0805 X7R	293108	
C246-C247	CC 2PF C 50V NPO R:5	209220	
C248-C249	EC 10UF 16V 5*3.5 R:5	251105	
C264	CC-CHIP 10NF K 50V /0805 X7R	293108	
C265	EC 10UF 16V 5*3.5 R:5	251105	
C266-C268	CC-CHIP 10NF K 50V /0805 X7R	293108	
C269	EC 220UF 16V 11*8 R:5	252229	
C270-C271	CC-CHIP 3.3NF K 50V /0805 X7R	292334	
C272-C274	CC-CHIP 10NF K 50V /0805 X7R	293108	
C275	EC 22UF 16V 11*5 R:5	251225	
C276-C277	EC 100UF 16V 11*6 R:5	252112	
C278-C279	CC-CHIP 1NF K 50V /0805 X7R	292110	
C281	CC-CHIP 10NF K 50V /0805 X7R	293108	
C282-C283	CC-CHIP 1NF K 50V /0805 X7R	292110	
C284	CC-CHIP 10NF K 50V /0805 X7R	293108	
C285-C289	EC 4.7UF 50V 11*5 R:5	250479	
C290	EC 10UF 16V 5*3.5 R:5	251105	
C291	CC-CHIP 10NF K 50V /0805 X7R	293108	
C292	EC 100UF 16V 11*6 R:5	252112	
C293	CC-CHIP 1NF K 50V /0805 X7R	292110	
C294	CC-CHIP 390PF J 50V /0805 NPO	291392	
C301	EC 470UF 25V 11*10 R:5	252476	
C303	C-PEM 220NF J 100V R:5	274230	
C304	C-PEM 10NF J 100V R:5	273121	
C305	C-CEA 10NF M 16V Y5P /3.2 52MM AXIAL	208101	
C307	C-PEM 220NF J 100V R:5	274230	
C308	C-PEM 10NF J 100V R:5	273121	
C309	EC 22UF 16V 11*5 R:5	251225	

InstPoint	Object Description	Component	Statement
C401	CC-CHIP 39PF J 50V /0805 NPO	290390	
C402	CC-CHIP 56PF J 50V NPO 0805	290561	
C404	EC 100UF 16V 11*5 R 5	252112	
C405	CC-CHIP 1NF K 50V /0805 X7R	292110	
C407	EC 10UF 16V 5*3 5 R 5	251105	
C409	CC-CHIP 1NF K 50V /0805 X7R	292110	
C418	CC-CHIP 10NF K 50V /0805 X7R	293108	
C501	C-PEM 100NF J 100V R 5	274107	
C502	CC 180P J 500V	221183	
C503	C-PEM 33NF K 100V R 5	273333	
C504	EC 100UF-M 35V 12*8 R 5	252238	
C507-C508	EC 470UF 25V 11*10 R 5	252476	
C509	C-PEM 6 8NF K 100V	272684	
C51-C52	EC 100UF 16V 11*6 R 5	252112	
C521	EC 10UF 50V RS 11*5 TAPING R=5MM	251112	
C522	C-PEM 15NF K 100V R 5	273152	
C524	C-PPM 7 2NF %3 5 1600V R 15 B-CLASS	272720	
C525	EC 4 7UF 250V 12*10 R 5	259478	
C526	C-PEM 3 3NF K 100V R 5	272335	
C527	CC 820PF K 500V TAPE	220831	
C528	C-PPM 270NF J 250V R 15	274274	
C529	EC 4 7UF 160V 11*6 3 R 5	239490	
C53	C-CE 100NF Z 50V(1H) Y5U R 5	224107	
C530	C-PPM 47N 200V %20 R 7 5MM ⚠	273479	
C531	EC 22UF-M 50V 11*5 R 5	251221	
C54	EC 10UF 16V 5*3 5 R 5	251105	
C601-C602	C-PEM 330NF K 275V-AC R 15 CLASS-B ⚠	274341	
C603-C604	CC 1NF K 1KV Y5P R 5	202105	
C605	C-ELA 120UF 400V 22 5*30 R 10	252129	
C606	C-PPM 1NF J 800V R 7 5	271100	
C607	CC 220PF K 2KV Y5P R 5	201226	
C609	CC 470PF K 50V SL R 5	201472	
C610	CC 2 2NF M 250VAC Y5U R 10 AH/NSA ⚠	202220	
C612	EC 100UF 35V 11*5 R 5 105 D	252128	
C613	CC 270PF-K 2KV	221275	
C614	CC 470PF K 50V SL R 5	201472	
C621-C622	CC 1000PF-K 500V	222159	
C623	EC 470UF 25V 11*10 R 5	252476	
C624	EC 1000UF 16V 20*10 R 5	253115	
C625	C-ELA 2200UF 16V 20*13 R 5	253233	
C626-C627	CC 470PF K 500V Y5P R 5 ⚠	201470	
C628	CC 1NF K 1KV Y5P R 5	202105	
C629	CC 470PF K 500V Y5P R 5	201470	
C630-C631	EC 1000UF 25V 20*13 R 5	253108	
C632	EC 220UF 160V 36.5*18 R 7 5	252221	
C633	EC 1000UF 25V 20*13 R 5	253108	
C634	C-ELA 47UF 160V 21*13 R 5	251489	
C635-C636	EC 100UF 10V 11*5 R 5	252111	
C637	EC 470UF 16V 12 5*10 R 5	252482	
C638	EC 47UF 16V 11*5 R 5	251478	
C639	C-PEM 100NF J 100V R 5	274107	
C640	EC 220UF 10V 11X6,3 R 5	253234	
C641	EC 10UF 50V RS 11*5 TAPING R=5MM	251112	
C642	EC 100UF 10V 11*5 R 5	252111	
C643	EC 4 7UF 50V 11*5 R 5	250479	
C644	CC 470PF K 500V Y5P R 5	201470	
C645	EC 1000UF 16V 20*10 R 5	253115	
C701	C-CEA 560PF K 50V Y5B/3 2 52MM AXIAL	206560	
C702	C-PEM 100NF J 250V R 10	274105	
C703-C704	EC 4 7UF 250V 12*10 R 5	259478	
C706	CC 1 2NF J 2KV Y5P	222125	
D01	LED IR SIR563SB3F 23/940	303991	
D02	LED LTL4221N D 3 R/O RED	303993	
D101	DIODE BA282 35V	303423	
D102-D104	DIODE 1N4148 52MM	302289	
D601	DIODE 1N 4005	303470	
D602	DIODE 1N4148 52MM	302289	
D603-D621	DIODE 1N4937G AXIAL	303465	
D622	DIODE RGP15J	303227	
D625	DIODE 1N4148 52MM	302289	
D601-D602	DIODE BYV26A-TAP	303467	
D603	DIODE 1N4148 52MM	302289	
D621-D624	DIODE 1N4937G AXIAL	303465	
D626	DIODE SFAF504G	303480	
D627-D628	DIODE BYW36-TAP	303468	
D629-D630	DIODE 1N4148 52MM	302289	
D631	DIODE 1N4937G AXIAL	303465	
D701-D703	DIODE BAV21	303209	
D704	DIODE 1N4004	302947	
DB601	DIODE G2SBA60	303466	
F101	SER FILTER MKT40.4MA110P-TF01 MURATA	056840-01	
F102	SAW FILTER OFW K9656M	56010	
F103	SAW FILTER OFW K3958M	56708	
F104	SER FILTER TPT02B	56762	
F601	FUSE 3 15AT (215) ⚠	54280	
F621	RPF 0.02R M 1W AXIAL ⚠	119012	
F622	RPF 0.05R K 1/2W AXIAL ⚠	119003	
FR501-FR502	RNF 0.47R J 1W AXIAL ⚠	119491	
FR521	RWF 0 1R J 0.75W 73MM ⚠	129109	
FR623-FR624	RNF 0 47R J 1/2W AXIAL ⚠	119490	
FR635-FR636	RNF 1 6R J 2W AXIAL	119163	
FR701	RMF 0 68R J 1W	119684	
HOP-X301	CABLE CFIZ 3-1' LI WHITE MINI KON.L=500M	ZL7507-AS	
HOP-X302	CABLE CFIZ 3-1'LI BLUE MINI KON.L=480MM	ZL7506-AS	
IC01	IC-CHIP S3C1840DA9/SMB1 T&R	452382	
IC101	IC-CHIP OM8365(98K) T&R ⚠	458970	
IC102	IC MC33269T-3 3V T0-220	456980	
IC160	IC-CHIP TDA8601T SO16 SOT109-1 T&R	453360	
IC201	IC-CHIP CXA2040AQT4 QFP32P	453359	
IC202	IC MSP3410G B8 V3 DIP64 AUDIO PROCES	452800-01	

InstPoint	Object Description	Component	Statement
IC303	IC KIA7042P AP 4 2V RESET(TAPING) T0-92	458310	
IC401	IC-CHIP AT24C08AN-10SI-2 7 (ATMEL) TAPE&	453031-02	
IC621	IC KIA278R05PI(TO-220IS-4)	453392	
IC627	IC SE110N LF12	453390	
IC628	IC OPTOCOUPLER TCET1108G	453450	
J628	CFR 2.2K J 1/4W /6 52MM	102227	
L102	COIL-CHIP 10UH %20/1206	53902	
L105-L108	COIL 10UH LAL02	53331	
L109	INDUCTOR AX1 8 2UH K 2.3*3 4	53714	
L160	COIL 10UH LAL02	53331	
L200	FERRITE BEAD BI3857 5.7X3 6MM AXIAL	55600	
L201-L204	COIL 10UH LAL02	53331	
L205	FERRITE BEAD BI3857 5 7X3 6MM AXIAL	55600	
L208-L215	COIL 10UH LAL02	53331	
L261-L263	COIL 18UH J LAL02	53887	
L290	COIL 10UH LAL02	53331	
L302	COIL 22UH K LAL03 26MM	53761	
L401	COIL-CHIP 10UH %20/1206	53902	
L51	JUMPER WIRE D= 6	500700-KD	
L521	COIL CHOKE 130UH 0 45PY 55 5Tum	53877	
L523	COIL H-LIN 100UH	51600	
L621	COIL CHOKE 100UH 53.5T R 7 5MM	53878	
LED1	LED ROT	303900	
LEFT	KONN. CINCH WHITE HOR 14 1	31163	
MENU	TACT SWITCH 2 LEG (MTSB)	10844	
PLAY/PAUSE	TACT SWITCH 2 LEG (MTSB)	10844	
PR/VOL	TACT SWITCH 2 LEG (MTSB)	10844	
PT601	PTC 9R/2 PIN - 3 CYCLE BOX TYPE	154234	
Q01	CER RESONATOR GSB455E	56210	
Q201	CRYSTAL 18 432MHZ +-30PPM	56952	
Q401	CRYSTAL 12MHZ CL=30PF/30PPM BULK	56946	
Q50	TRN KRC102M TP(KRC1202)KEC T0-92M	401001	
R01	RC-CHIP 0R /1206	179002	
R100	RC-CHIP 0R /0805 2*1.25	179001	
R101	RC-CHIP 39R J 1/10W/0805	170393	
R107	CFR 100R J 1/4W /3.2 26MM	141103	
R108	RC-CHIP 2.2K J 1/8W /0805	172222	
R109-R110	RC-CHIP 6.8K J 1/10W /0805	172683	
R111	RC-CHIP 2.2K J 1/8W /0805	172222	
R112-R113	RC-CHIP 100R J 1/10W /0805	171102	
R114	CFR 5.6K J 1/4W /3.2 52MM	142564	
R115	CFR 18K 1/4W /3.2 26MM	143182	
R116	RC-CHIP 5.6K J 1/10W /0805	172561	
R118	RC-CHIP 22K J 1/10W /0805	173221	
R119-R120	CFR 100R J 1/4W /3.2 52MM	141104	
R121	RC-CHIP 39K %1 1/10W/0805	173392	
R122	RC-CHIP 2.7K J 1/10W /0805	172273	
R123	RC-CHIP 100R J 1/10W /0805	171102	
R124	RC-CHIP 3K J 1/10W /0805	172302	
R125	CFR 27K J 1/4W /3.2 52MM	143274	
R127	RC-CHIP 0R /0805 2*1.25	179001	
R129	RC-CHIP 0R /0805 2*1.25	179001	
R130-R131	RC-CHIP 100R J 1/10W /0805	171102	
R132	RC-CHIP 33K J 1/10W /0805	173333	
R133	RC-CHIP 390R J 1/10W /0805	171393	
R134	RC-CHIP 3.3K J 1/10W /0805	172335	
R135	RC-CHIP 1K J 1/10W /0805	172101	
R136	RC-CHIP 180R J 1/10W /0805	171182	
R137	RC-CHIP 120R J 1/10W /0805	171122	
R139	RC-CHIP 1K J 1/10W /0805	172101	
R140	RC-CHIP 180R J 1/10W /0805	171182	
R141	RC-CHIP 220R J 1/10W /0805	171221	
R142	RC-CHIP 1K J 1/10W /0805	172101	
R144	RC-CHIP 0R /0805 2*1.25	179001	
R145	CFR 680R J 1/4W /3.2 26MM	141684	
R146	RC-CHIP 10K J 1/10W /0805	173101	
R147-R149	RC-CHIP 100R J 1/10W /0805	171102	
R150-R151	RC-CHIP 10K J 1/10W /0805	173101	
R153	CFR 1K J 1/4W /3.2 52MM	142101	
R154	RC-CHIP 0R /1206	179002	
R155	RC-CHIP 0R /0805 2*1.25	179001	
R163-R168	RC-CHIP 100R J 1/10W /0805	171102	
R169-R170	RC-CHIP 0R /0805 2*1.25	179001	
R171-R173	CFR 100R J 1/4W /3.2 52MM	141104	
R174-R179	RC-CHIP 100R J 1/10W /0805	171102	
R181	RC-CHIP 0R /0805 2*1.25	179001	
R182-R187	RC-CHIP 100R J 1/10W /0805	171102	
R188	CFR 100R J 1/4W /3.2 52MM	141104	
R190-R191	CFR 75R J 1/4W /6 52MM	100752	
R194	RC-CHIP 75R J 1/10W /0805	170750	
R195-R196	CFR 180R J 1/2W (A) 52MM	101184	
R197-R198	CFR 390R J 1/4W /6 52MM	101395	
R199-R200	RC-CHIP 470R J 1/10W /0805	171471	
R201	RC-CHIP 82R J 1/10W /0805	170822	
R202	RC-CHIP 100R J 1/10W /0805	171102	
R203	RC-CHIP 68R J 1/10W /0805	170683	
R204	CFR 360R J 1/8W 52MM	101361	
R205-R210	RC-CHIP 75R J 1/10W /0805	170750	
R211	CFR 360R J 1/8W 52MM	101361	
R212	CFR 100R J 1/4W /3.2 26MM	141103	
R213	RC-CHIP 33K J 1/10W /0805	173333	
R214	RC-CHIP 100R J 1/10W /0805	171102	
R215	RC-CHIP 33K J 1/10W /0805	173333	
R216-R217	RC-CHIP 100R J 1/10W /0805	171102	
R218	CFR 100R J 1/4W /3.2 52MM	141104	
R219	JUMPER WIRE D= 6 L=17 5	500558-KD	
R220-R221	RC-CHIP 0R /0805 2*1.25	179001	
R222-R223	RC-CHIP 3.9K J 1/10W /0805	172394	
R224-R225	RC-CHIP 100R J 1/10W /0805	171102	
R226	CFR 100R J 1/4W /3.2 52MM	141104	

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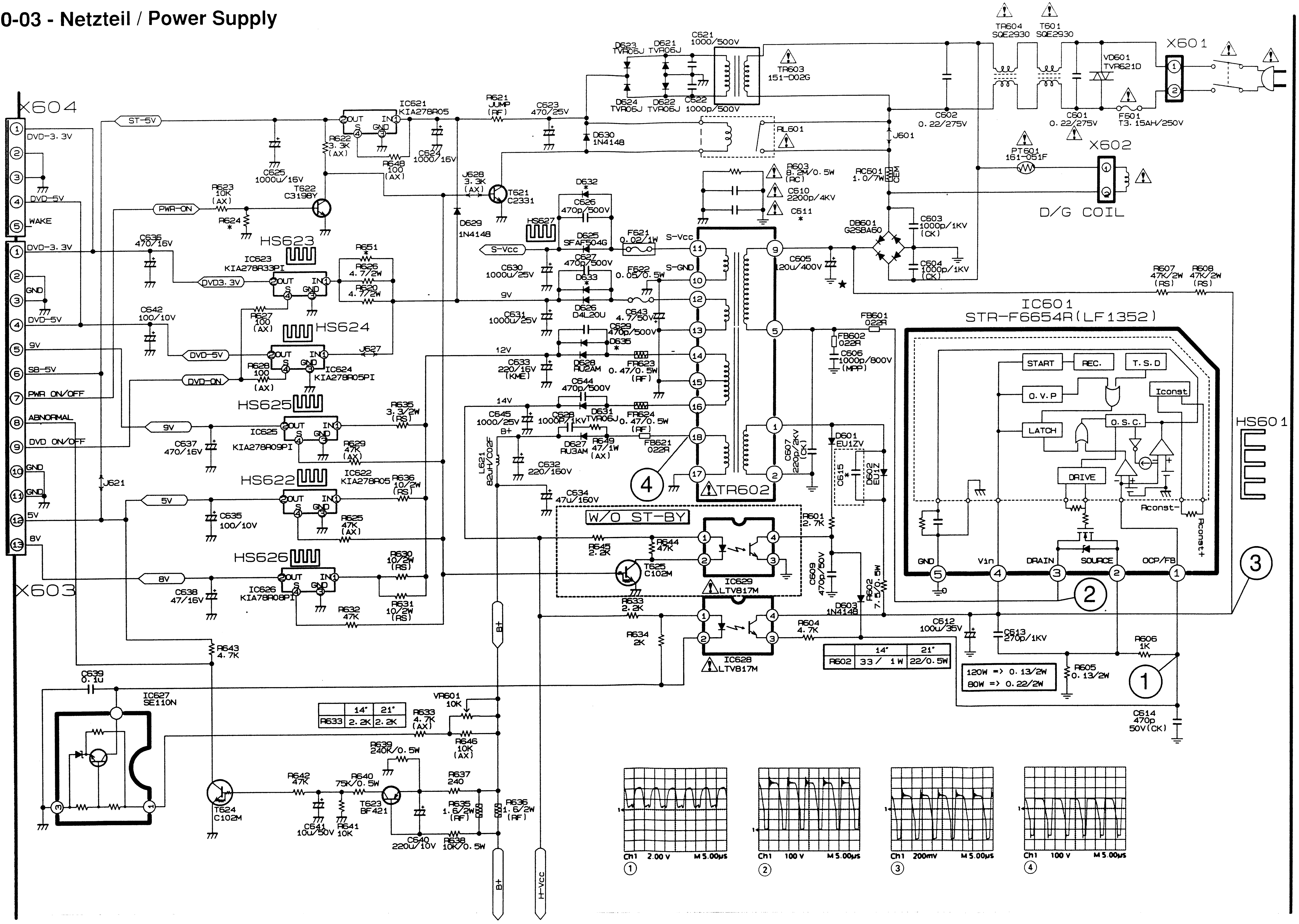
R228	RC-CHIP 0R /0805 2*1.25	179001	
R233-R234	CFR 220R J 1/4W /3.2 52MM	141223	
R235-R236	RC-CHIP 3.3K J 1/10W /0805	172336	
R237-R238	RC-CHIP 330R J 1/10W /0805	171332	
R243-R256	RC-CHIP 0R /0805 2*1.25	179001	
R257	CFR 330R J 1/4W /6 52MM	101331	
R258-R259	RC-CHIP 330R J 1/10W /0805	171332	
R260	RC-CHIP 0R /0805 2*1.25	179001	
R263-R264	RC-CHIP 330R J 1/10W /0805	171332	
R265-R266	RC-CHIP 0R /0805 2*1.25	179001	
R291-R293	RC-CHIP 220R J 1/10W /0805	171221	
R294	RC-CHIP 0R /0805 2*1.25	179001	
R301	CFR 3.3K J 1/4W /6 52MM	102338	
R302	CFR 6.2K J 1/4W /6 52MM	102621	
R303-R304	CFR 47K J 1/4W /3.2 52MM	143474	
R305	CFR 3.3K J 1/4W /6 52MM	102338	
R306	CFR 6.2K J 1/4W /6 52MM	102621	
R307	CFR 10K J 1/4W/3.2 52MM	143104	
R308	CFR 4.7K J 1/4W /3.2 26MM	142475	
R403-R404	CFR 100R J 1/4W /3.2 26MM	141103	
R405-R406	RC-CHIP 3.3K J 1/10W /0805	172336	
R407	CFR 100R J 1/4W /3.2 52MM	141104	
R408-R410	CFR 100R J 1/4W /3.2 26MM	141103	
R417-R418	RC-CHIP 4.7K J 1/10W /0805	172475	
R419-R420	RC-CHIP 100R J 1/10W /0805	171102	
R421	CFR 100R J 1/4W /3.2 52MM	141104	
R422-R423	CFR 100R J 1/4W /3.2 26MM	141103	
R424-R427	CFR 100R J 1/4W /3.2 52MM	141104	
R429-R430	RC-CHIP 100R J 1/10W /0805	171102	
R431	RC-CHIP 4.7K J 1/10W /0805	172475	
R501	CFR 1R K 1/2W/9 52MM	109104	
R502-R504	CFR 1.5K J 1/6W 52MM	142154	
R505	RM 3.3R J 1/2W	119271	14"
R505	RM 2.7R J 1/2W	119271	21"
R506	CFR 2.7R J 1/2W	109274	21"
R506	CFR 3.9R J 1/2W	109274	14"
R507	CFR 4.7K J 1/2W 52MM	102473	
R508	CFR 2.2K J 1/6W 52MM	142226	
R509	CFR 10K J 1/4W/3.2 52MM	143104	
R51	CFR 1.8K J 1/4W /6 26MM	102185	
R510	RMO 270R J 2W	111275	
R511	CFR 1.8K J 1/6W 52MM	142182	
R52	CFR 1.5K J 1/4W /6 26MM	102166	
R521	RMO 27K J 2W	113275	
R522	RMO 120R J 2W 73MM ⚠	111123	
R523	COIL 1UH J LAL02	53868	
R525	CFR 510R J 1/2W 52MM	141513	
R526	CFR 39R J 1/2W /9 52MM	100392	
R527	CFR 1K J 1/4W /3.2 52MM	142101	
R528	CFR 2.4K J 1/4W/3.2 52MM	102248	
R529	CFR 56K J 1/6W 52MM	143564	
R530	CFR 56K J 1/2W /9 ⚠	103564	14"
R530	CFR 75K J 1/2W /9 ⚠	103564	21"
R531	CFR 4.7K J 1/2W 52MM ⚠	102473	
R532	CFR 1.5K J 1/2W 52MM	142155	
R533	RMO 27K J 2W	113275	
R534	CFR 27K J 1/4W /3.2 52MM	143274	
R54	CFR 1.8K J 1/4W /6 26MM	102185	
R55	CFR 1.5K J 1/4W /6 26MM	102166	
R57	CFR 2.2K J 1/4W /6 26MM	102228	
R58	CFR 1.8K J 1/4W /6 26MM	102185	
R59	CFR 1.5K J 1/4W /6 26MM	102166	
R601	CFR 2.7K J 1/4W /3.2 52MM	142272	
R602	CFR 22R J 1/2W 52MM	100220	
R603	RM 8.2M J 1/2W 52MM SAFETY	115820	
R604	CFR 4.7K J 1/6W 52MM	142476	
R605	RW 0.13R J 2W AXIAL	129135	
R606	CFR 1K J 1/4W /3.2 52MM	142101	
R607-R608	RMO 47K 2W	113479	
R61	CFR 1K J 1/4W /3.2 52MM	142101	
R62	CFR 10K %1 1/4W AXIAL	143107	
R620	RMO 10R J 2W	110106	
R622	CFR 3.3K J 1/4W /6 26MM	102344	
R623-R625	CFR 47K J 1/4W /6 26MM	103484	
R626	RMO 3.3R J 2W R 27.5 TAPE	119337	
R627-R628	CFR 100R J 1/4W /3.2 52MM	141104	
R629	CFR 47K J 1/4W /6 26MM	103484	
R63	CFR 470R J 1/4W /6 26MM	101494	
R630-R631	RMO 10R J 2W	110106	
R632	CFR 12K J 1/6W 52MM	143125	
R633	CFR 2.2K J 1/4W /3.2 26MM	142224	
R634	CFR 2K J 1/6W 52MM	102207	
R635	RMO 3.3R J 2W R 27.5 TAPE	119337	
R636	CFR 4.7K J 1/4W /3.2 26MM	142475	
R637	CFR 240R J 1/6W 52MM	101245	
R638	CFR 10K J 1/2W /9 52MM	103103	
R639	CFR 240K J 1/2W/9 52MM	104243	
R640	CFR 75K J 1/2W/9 52MM	103753	
R641	CFR 10K J 1/4W/3.2 52MM	143104	
R642	CFR 47K J 1/4W /3.2 52MM	143474	
R643	CFR 4.7K J 1/6W 52MM	142476	
R646	CFR 10K J 1/4W/3.2 52MM	143104	
R647	RMO 10R J 2W	110106	
R648	CFR 1K J 1/4W /3.2 52MM	142101	
R650	RMO 47R J 3W	110476	
R701-R705	CFR 220R J 1/4W /3.2 52MM	141223	
R706-R708	CFR 100R J 1/4W /3.2 52MM	141104	
R709-R711	RMO 1.5K J 1/2W	112153	
R712	CFR 2.2M J 1/2W /9 52MM	105223	
RC601	RW 1R J 7W R 22.5MM	129129	

InstPoint	Object Description	Component	Statement
REWIND	TACT SWITCH 2 LEG (MTSB)	10844	
RIGHT	KONN. CINCH .... RED HOR 14.1	31164	
RL601	RELAY SDT-S-105LMR 5V 0.05A	54276	
SCART1-2	SCART SOCKET 14.1	31251	
STOP	TACT SWITCH 2 LEG (MTSB)	10844	
SVHS	KONN.S-VHS	31795	
T	SCREW SELF TAPP 2.9*8	11384	
T	TRN 2SD2499 1500V/6A	401492	
T01	TRN BC337-25	401047	
T02	TRN-CHIP BC858B SOT23	401142	
T102-T105	TRN-CHIP KRC102S	401276	
T106-T108	TRN-CHIP 2SC3875S	401275	
T109	TRN-CHIP KRC102S	401276	
T160-T204	TRN-CHIP 2SA1504S	401277	
T270-T273	TRN KTA1266 TO-92	401503	
T301	TRN KTC3198Y-TP T0-92M	401248	
T401	TRN-CHIP KRC102S	401276	
T501	TRN A1980Y TO-92M	401467	
T521	TRN KSC2331-Y TAPE T0-92M	401088	
T523	TRN KTC3198Y-TP T0-92M	401248	
T621	TRN KSC2331-Y TAPE T0-92M	401088	
T622	TRN KTC3198Y-TP T0-92M	401248	
T623	TRN BF421	401366	
T624	TRN KRC102M TP(KRC1202)KEC T0-92M	401001	
TR522	TRANSFORMER 6170VC003A 21" DVD-COMBO	51841	
TR604	LINE FILTRE 2*18MH E-TYPE	051737-10	
TUN	CABLE SINGLE ISO. L=75 YELLOW	7WY533-AS	
TUNER	TUNER PH ABM.PLL UV1316MG-4 (SHORT	G89136-PH3	
TV/DVD	TACT SWITCH 2 LEG (MTSB)	10844	
UP	TACT SWITCH 2 LEG (MTSB)	10844	
VD801	VARISTOR ILJIN 621D-14A 620V	180108	
VIDEO	KONN. CINCH .... YELLOW HOR 14.1	31165	
VR801	R-VAR 10K V(2.5MM) 6*3	133118	
X101	CON MALE 9' LU 2317-9S JST B9B-XH-A WHIT	38897	
X101-X603	CABLE HARN.9'LU MINI KONN.L=310MM	ZL5501-AS	
X102	CON MALE 12 2317-12S JST B12B-XH-A WHIT	38870	
X102-X503	CABLE HARNESS 12'LI MINI KONN.L=225MM	ZL5500-AS	
X103	CONN.HOUS.5P 2317-5S JST B 5B-XH-A RED	31198	
X103-X701	CABLE HAR.5' LI RED MINI KONN.LU L=200M	ZL5504-AS	
X105	CON MALE 26'LI FFC	38893	
X105-DVD	CABLE FFC SHIELD 1MM PITCH 26'LI L=330MM	ZL5560-AS	
X201	CONN.HOUS.5P 2317-5S JST B 5B-XH-A WHITE	31206	
X201-X303	CABLE HARNESS BLEND.LI 5'LI MINI L=250MM	ZL5502-AS	
X202	CONN HOUS.4P 2317-4S JST B 4B-XH-A WHITE	31194	
X202-1	CONN.HOUS.4 PIN 2317-4R JST S 4B-XH-A	31331	
X202-X202-1	CABLE 4'LU SHIELD' LI MINI KON L=580MM	ZL5505-AS	
X301	CONN HOUS.3P 2317-3S JST B 3B-XH-A WHITE	31224	
X302	CONN HOUS 3P 2317-3S JST B 3B-XH-A BLUE	31246	
X303	CONN.HOUS.5P 2317-5S JST B 5B-XH-A WHITE	31206	
X401	CONN HOUS 3P 2317-3S JST B 3B-XH-A RED	31646	
X401-DVD	CABLE 3'LU KIR./BEYAZ MINI KON L=400MM	ZL5525-AS	
X402	CONN HOUS 5P 2317-5S JST B 5B-XH-A WHITE	31206	
X402-1	CONN.MALE 5 RIGHT-A 2317-5R JST S 5B-XH-	38889	
X402-2	CONN.HOUS 3 PIN 2317-3R JST S 3B-XH-A	31329	
X402-X402-1	CABLE HARN CFIZ 5'LI TUS T. DVD L=600MM	ZL5531-AS	
X403	CONN.HOUS.10P 2317-10S JST4B-XH-A BEYAZ	31299	
X403-1	CON MALE 10R ANG 2317-10R JST S 10B-XH-A	38890	
X403-X403-1	CABLE HARNESS 10'LU SHIELD L= 580MM	500598-AS	
X404	CONN.HOUS.3P 2317-3S JST B 3B-XH-A WHITE	31224	
X404-X402-2	CABLE HAR.CFIZ 3'LU TUS T DVD L=600MM	ZL5530-AS	
X501	CONN.MALE HOR. 4 PIN PLUG	31794	
X501+X504	CABLE HAR 4+2'LI CFIZ L=450MM SASI/SAPT	ZL5540-AS	
X502	CON MALE4-1' LI 2317-4S JST B 4B-XHA-A	38877	
X503	CON MALE 12 2317-12S JST B12B-XH-A WHIT	38870	
X504	CONN.HOUSING 2'LI GREY	31850	
X601	CON.HOUSING 2P MALE	31675	
X602	CON.HOUSING 2P MALE RED	31672	
X603	CON MALE 9' LU 2317-9S JST B9B-XH-A WHIT	38897	
X604	CON MALE 5'LI 2317-5S JST B5B-XH-A BLACK	38890	
X604-DVD	CABLE 5'LI BLACK/WHI.MINI KON.L=320MM	ZL5518-AS	
X701	CONN HOUS 5P 2317-5S JST B 5B-XH-A RED	31198	
X702	CON MALE4-1' LI 2317-4S JST B 4B-XHA-A	38877	
X702-X502	CABLE HARNESS 4-1' LI MINI KONN.LU L=250	ZL5503-AS	
X703	INCHANG/CRT SOCKET ISHM23S-W	031530-02	
ZD191	Z.DIODE BZX55C8V2	303836	
ZD194	Z.DIODE BZX55C8V2	303836	
ZD301	Z.DIODE BZX55C8V2	303836	
ZD521	DIODE Z. UZT33V	303771	
ZD522	Z.DIODE BZX55C8V2	303836	
ZD523	DIODE Z. BZX55C9V1-GPS(VISHAY)	300193	
ZD524	DIODE Z. C8V2 26MM	302294	
ZD704	DIODE Z. 7.5 V	303159	
	SCREEN PLATE EMC PVC DVD-COMBO	ZL5326	
	SCREEN PLATE EMC DVD-COMBO	ZL5327	
	DVD COMBO LOADER+MPEG BOARD DSL-820	ZL5001	
	CUSHION DVD-COMBO 21"	Z40805	
	CUSHION DVD-COMBO 21"	Z40806	
	CUSHION SPEAKER	BR9381	
	S-AV+HP MODULE ASSY 21" DVD -COMBO	ZL5130	
	D5 CHASSIS 14" PS/LL/AV/STX/1S/KL/SV A-OSD ⚠	UY4110	PAL-SECAM BG-LL / NTSC-PL 14"
	D5 CHASSIS-SD 14" P/BG/AV/ST/AV/K GR-A ⚠	UV2110	PAL BG / NTSC-PL 14"
	D5 CHASSIS-SD 14" PI/AV-ST/TX/1S/AV/K A-OSD ⚠	UG1110	PAL-I UHF/VHF / NTSC-PL 14"
	D5 CHASSIS-SD 21" P/BG/2SC/RF/ST/KL/K/SV ⚠	ZL7110	PAL BG / NTSC-PL 21"
	CPT PH A34EAC01X06 DY-BRZ ⚠	056314-PH3	14"
	CPT VC A51ELD032X001 P FLAT ⚠	056321-VC0	21" Pure Flat
	DEGAUSSING COIL ASSY 14" BAND ⚠	614166-AS	14"
	DEGAUSSING COIL ASSY 21" BAND ⚠	621167-AS	21" Pure Flat

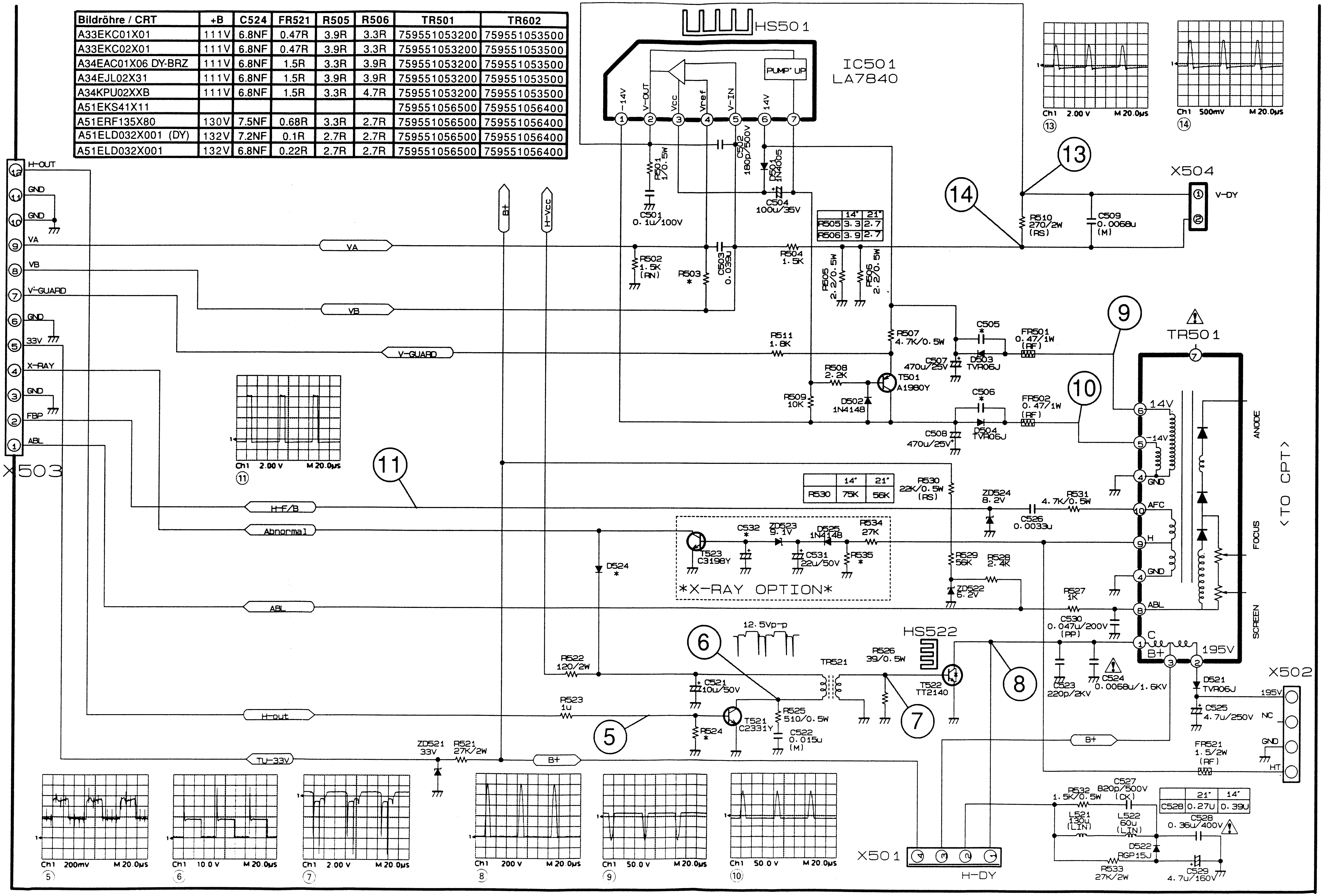
InstPoint	Object Description	Component	Statement
	SPEAKER 8R 5W(N)/9W(M) 70X40	ZL8107-AS	14"
	SPEAKER 8R 7W (NOM:)/10W (MAX) 120X50	7ZY107-AS	21" Pure Flat
	D5 CRT MODULU 14" DVDTV △	ZL6165	CRT
	D5 CRT MODULU 21" DVDTV △	CRT	ZL5165
	SMPS ELDOR 14" ST/AVSTEREO DVD-COMBO △	050100-EL1	
	SMPS ELDOR 21" STEREO DVD-COMBO △	050101-EL1	
	FBT 21" 1412.7010 A DVD-COMBO △	058751-EL1	
	FBT 14" 1412.7007 A DVD-COMBO △	058750-EL1	

ZL6.190-03 - Netzteil / Power Supply


X604
DVD-3.3V
WAKE
DVD-3.3V
GND
DVD-5V
9V
SB-5V
PWR ON/OFF
ABNORMAL
DVD ON/OFF
GND
GND
5V
8V
X603
ST-5V
PWR-ON
DVD3.3V
DVD-5V
DVD-ON
9V
5V
8V
IC621 KIA278R05
IC623 KIA278R33PI
IC624 KIA278R05PI
IC625 KIA278R09PI
IC622 KIA278R05
IC626 KIA78R08PI
HS623
HS624
HS625
HS622
HS626
HS627
T622 C3198Y
T621 C2331
R621 JUMP (RF)
C623 470/25V
C625 1000u/16V
C624 1000/16V
R622 3.3K (AX)
R648 100 (AX)
R623 10K (AX)
R624 *
J628 3.3K (AX)
D629 1N4148
D630 1N4148
C636 470/16V
R651 *
R626 4.7/2W
R620 4.7/2W
R627 100 (AX)
R628 100 (AX)
J627
C642 100/10V
R635 3.3/2W (RS)
C637 470/16V
R629 47K (AX)
R636 10/2W (RS)
C635 100/10V
R625 47K (AX)
R630 10/2W (RS)
C638 47/16V
R631 10/2W (RS)
R632 47K
J621
D623 TVR06J
D621 TVR06J
D624 TVR06J
D622 TVR06J
C621 1000/500V
C622 1000p/500V
TR603 151-D02G
RL601
J601
D632 *
C626 470p/500V
D625 SFAF504G
C627 470p/500V
D633 *
F621 0.02/1W
F622 0.05/0.5W
S-Vcc
S-GND
C630 1000u/25V
9V
C631 1000u/25V
D626 D4L20U
C643 4.7/50V
C629 470p/500V
D635 *
12V
C633 220/16V (KME)
D628 RU2AM
FR623 0.47/0.5W (RF)
C644 470p/500V
14V
C645 1000/25V
C628 1000P/1KV
D631 TVR06J
FR624 0.47/0.5W (RF)
B+
D627 RU3AM
R649 47/1W (AX)
FB621 022R
L621 82uH/C02F
C632 220/160V
C634 47u/160V
④
TR602
W/O ST-BY
R645 2.2K
R644 47K
T625 C102M
IC629 LTV817M
R633 2.2K
R634 2K
IC628 LTV817M
R603 8.2M/0.5W (RC)
C610 2200p/4KV
C611 *
RC601 1.0/7W
CEM
C603 1000p/1KV (CK)
C604 1000p/1KV (CK)
DB601 G2SBA60
C605 120u/400V
★
FB601 022R
FB602 022R
C606 1000p/800V (MPP)
D601 EU1ZV
C607 220p/2KV (CK)
C615 *
D602 EU1Z
R601 2.7K
C609 470p/50V
R602 7.5/0.5W
D603 1N4148
R604 4.7K
C612 100u/35V
C613 270p/1KV
R606 1K
R605 0.13/2W
C614 470p 50V(CK)
R607 47K/2W (RS)
R608 47K/2W (RS)
TR604 SQE2930
T601 SQE2930
X601
VD601 TVR621D
C602 0.22/275V
C601 0.22/275V
F601 T3.15AH/250V
PT601 161-051F
X602
D/G COIL
IC601 STR-F6654R(LF1352)
START
REC.
T.S.D
O.V.P
Iconst
LATCH
O.S.C.
DRIVE
Rconst-
Rconst+
GND
Vin
DRAIN
SOURCE
OCP/FB
HS601
②
③
①
R602 | 14" 33/1W | 21" 22/0.5W
120W => 0.13/2W
80W => 0.22/2W
C639 0.1u
IC627 SE110N
R643 4.7K
T624 C102M
R633 | 14" 2.2K | 21" 2.2K
VR601 10K
R633 4.7K (AX)
R646 10K (AX)
R639 240K/0.5W
R642 47K
R640 75K/0.5W
T623 BF421
R637 240
R635 1.6/2W (RF)
R636 1.6/2W (RF)
C641 10u/50V
R641 10K
C640 220u/10V
R638 10K/0.5W
B+
B+
H-Vcc
Ch1 2.00 V M 5.00µs ①
Ch1 100 V M 5.00µs ②
Ch1 200mV M 5.00µs ③
Ch1 100 V M 5.00µs ④

ZL6.190-03 - Ablenkung / Deflection

Bildröhre / CRT	+B	C524	FR521	R505	R506	TR501	TR602
A33EKC01X01	111V	6.8NF	0.47R	3.9R	3.3R	759551053200	759551053500
A33EKC02X01	111V	6.8NF	0.47R	3.9R	3.3R	759551053200	759551053500
A34EAC01X06 DY-BRZ	111V	6.8NF	1.5R	3.3R	3.9R	759551053200	759551053500
A34EJL02X31	111V	6.8NF	1.5R	3.9R	3.9R	759551053200	759551053500
A34KPU02XXB	111V	6.8NF	1.5R	3.3R	4.7R	759551053200	759551053500
A51EKS41X11						759551056500	759551056400
A51ERF135X80	130V	7.5NF	0.68R	3.3R	2.7R	759551056500	759551056400
A51ELD032X001 (DY)	132V	7.2NF	0.1R	2.7R	2.7R	759551056500	759551056400
A51ELD032X001	132V	6.8NF	0.22R	2.7R	2.7R	759551056500	759551056400



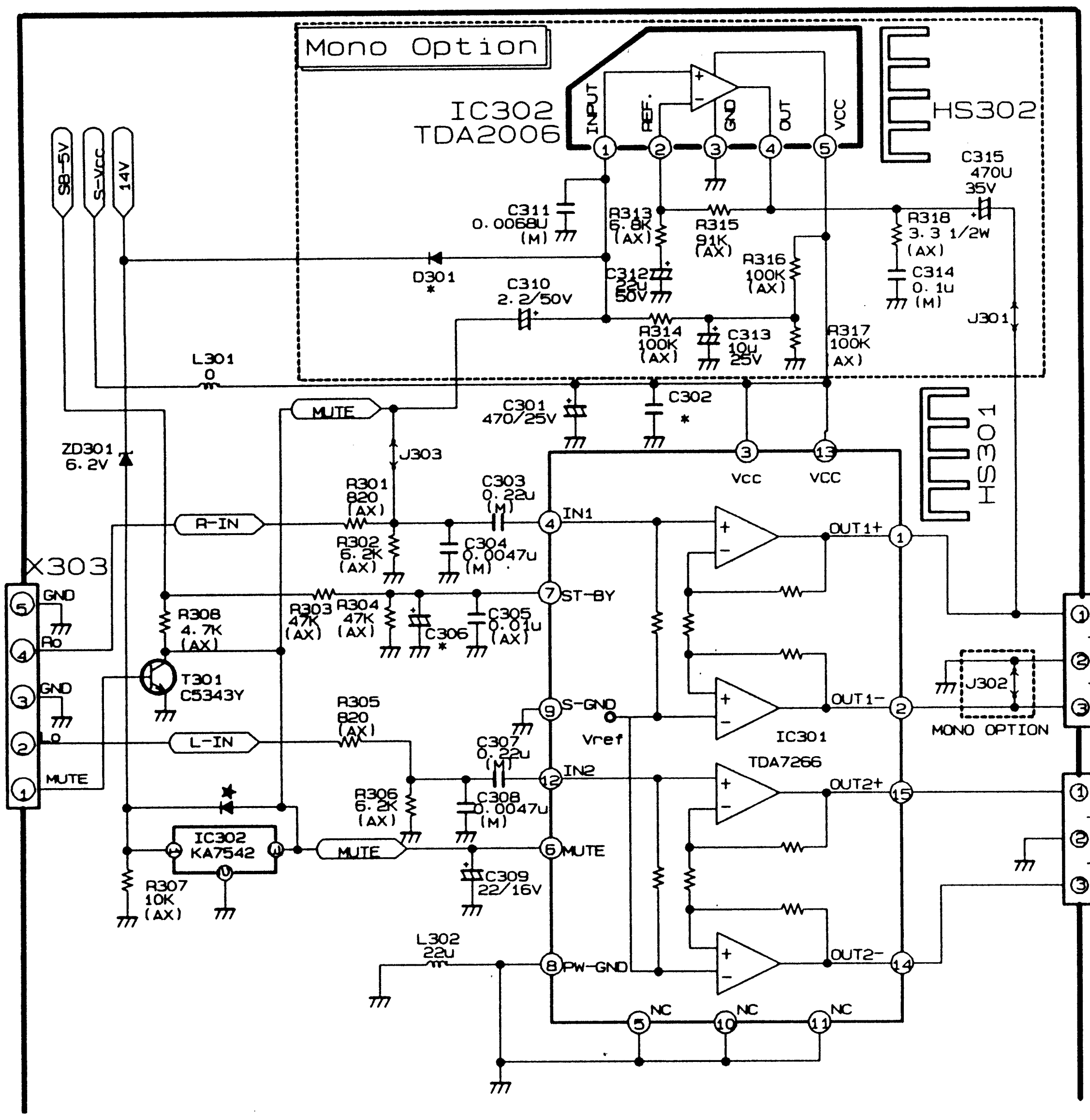
HS501
IC501
LA7840
PUMP' UP
-14V
V-OUT
Vcc
Vref
V-IN
14V
①
②
③
④
⑤
⑥
⑦
R501
1/0.5W
C501
0.1u/100V
C502
180p/500V
D501
1N4005
C504
100u/35V
Ch1 2.00 V M 20.0μs
⑬
Ch1 500mV M 20.0μs
⑭
⑬
⑭
X504
V-DY
R510
270/2W
(RS)
C509
0.0068u
(M)
H-OUT
GND
GND
VA
VB
V-GUARD
GND
33V
X-RAY
GND
FBP
ABL
X503
B+
H-Vcc
VA
VB
V-GUARD
R502
1.5K
(RN)
R503
*
C503
0.039U
R504
1.5K
R505
2.2/0.5W
R506
2.2/0.5W
R511
1.8K
R507
4.7K/0.5W
C505
*
FR501
0.47/1W
(RF)
C507
470u/25V
D503
TVR06J
R508
2.2K
T501
A1980Y
R509
10K
D502
1N4148
C506
*
FR502
0.47/1W
(RF)
C508
470u/25V
D504
TVR06J
⑨
⑩
TR501
14V
-14V
GND
AFC
H
GND
ABL
C
B+
195V
ANODE
FOCUS
SCREEN
<TO CPT>
Ch1 2.00 V M 20.0μs
⑪
⑪
H-F/B
Abnormal
ABL
H-out
TU-33V
B+
R530
22K/0.5W
(RS)
ZD524
8.2V
C526
0.0033u
R531
4.7K/0.5W
T523
C3198Y
C532
*
ZD523
9.1V
D525
1N4148
R534
27K
C531
22u/50V
R535
*
X-RAY OPTION
D524
*
R529
56K
R528
2.4K
ZD522
6.2V
R527
1K
C530
0.047u/200V
(PP)
12.5Vp-p
⑥
HS522
R526
39/0.5W
TR521
T522
TT2140
⑧
⑦
C523
220p/2KV
C524
0.0068u/1.6KV
R522
120/2W
C521
10u/50V
R523
1u
⑤
T521
C2331Y
R525
510/0.5W
R524
*
C522
0.015u
(M)
ZD521
33V
R521
27K/2W
D521
TVR06J
C525
4.7u/250V
X502
195V
NC
GND
HT
FR521
1.5/2W
(RF)
R532
1.5K/0.5W
C527
820p/500V
(CK)
L521
130u
(LIN)
L522
60u
(LIN)
C528
0.36u/400V
D522
RGP15J
R533
27K/2W
C529
4.7u/160V
X501
H-DY
Ch1 200mV M 20.0μs
⑤
Ch1 10.0 V M 20.0μs
⑥
Ch1 2.00 V M 20.0μs
⑦
Ch1 200 V M 20.0μs
⑧
Ch1 50.0 V M 20.0μs
⑨
Ch1 50.0 V M 20.0μs
⑩

	14"	21"
R505	3.3	2.7
R506	3.9	2.7

	14"	21"
R530	75K	56K

	21"	14"
C528	0.27U	0.39U

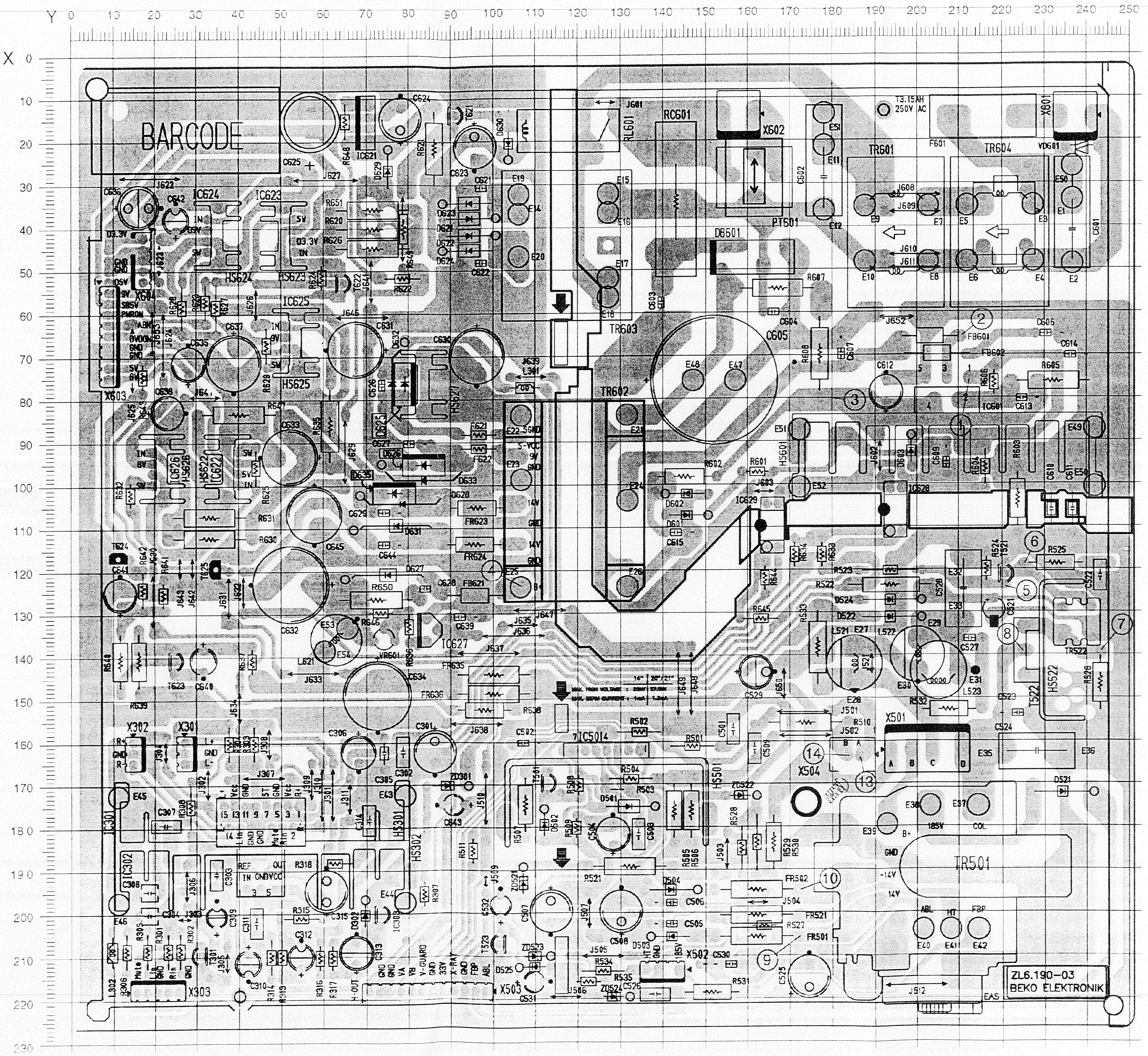
ZL6.190-03 - NF-Endstufe, AF Amplifier


Mono Option
IC302
TDA2006
INPUT
REF.
GND
OUT
VCC
HS302
C315
470U
35V
C311
0.0068U
(M)
R313
6.8K
(AX)
R315
91K
(AX)
R318
3.3 1/2W
(AX)
C314
0.1U
(M)
R316
100K
(AX)
C312
22U
50V
D301
C310
2.2/50V
R314
100K
(AX)
C313
10U
25V
R317
100K
(AX)
J301
SB-5V
S-Vcc
14V
L301
0
MUTE
C301
470/25V
C302
HS301
ZD301
6.2V
J303
R301
820
(AX)
C303
0.22U
(M)
IN1
VCC
VCC
OUT1+
R-IN
R302
6.2K
(AX)
C304
0.0047U
(M)
X303
GND
Ro
GND
Lo
MUTE
ST-BY
R308
4.7K
(AX)
R303
47K
(AX)
R304
47K
(AX)
C306
C305
0.01U
(AX)
X301
T301
C5343Y
J302
MONO OPTION
OUT1-
R305
820
(AX)
S-GND
C307
0.22U
(M)
Vref
IC301
TDA7266
L-IN
IN2
OUT2+
X302
R306
6.2K
(AX)
C308
0.0047U
(M)
IC302
KA7542
MUTE
R307
10K
(AX)
C309
22/16V
L302
22U
PW-GND
OUT2-
NC
NC
NC

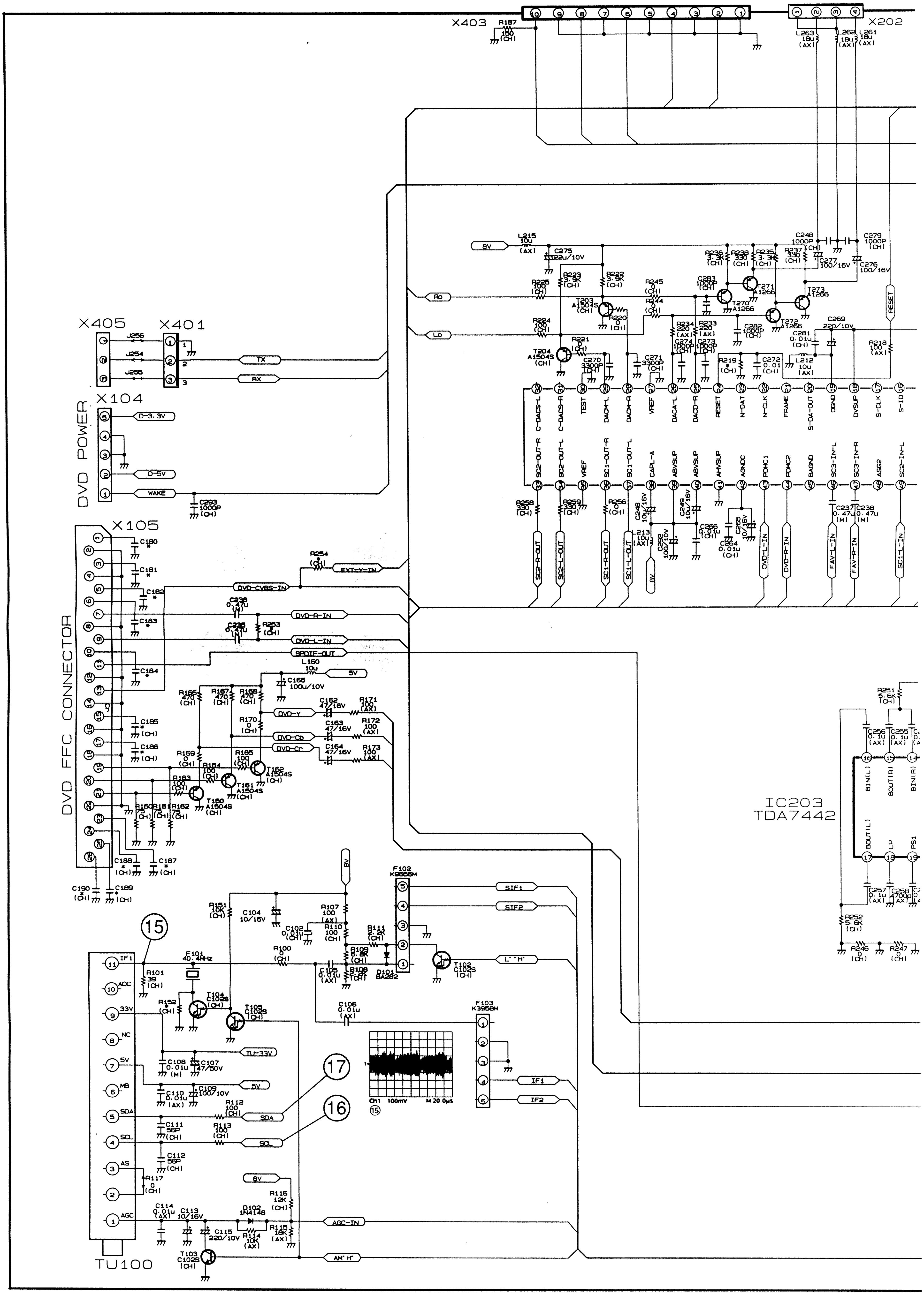
Koordinaten für die Bauteile der Bestückungsseite (Ansicht von oben)
Coordinates of the Components on the component side (top view)

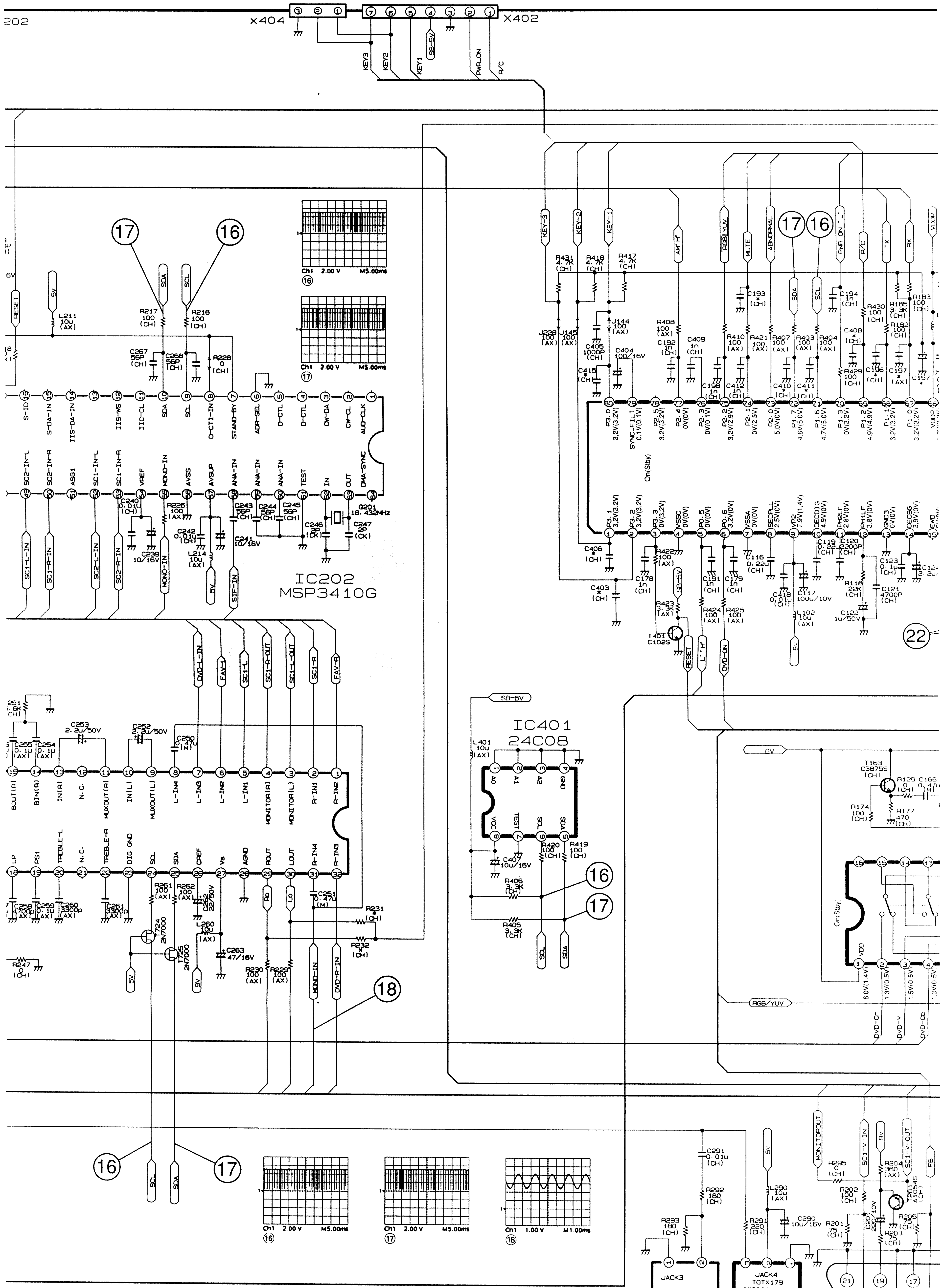
Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X	Y
C301	163	85
C302	163	78
C303	191	34
C304	198	20
C305	164	73
C306	163	67
C307	177	24
C308	193	15
C309	196	34
C310	212	41
C311	203	43
C312	206	54
C313	205	67
C314	179	70
C315	190	60
C501	153	156
C502	158	104
C503	182	133
C504	177	127
C505	201	144
C506	196	144
C507	200	113
C508	195	129
C509	162	161
C521	130	217
C522	122	242
C523	152	225
C524	161	239
C525	211	170
C526	217	135
C527	143	214
C528	115	210
C529	138	169
C530	210	158
C531	214	111
C532	194	101
C601	24	212
C602	36	169
C603	45	148
C604	47	180
C605	74	156
C606	63	227
C607	71	179
C609	96	206
C610	109	231
C611	109	236
C612	74	192
C613	78	221
C614	68	233
C615	109	140
C621	29	99
C622	46	99
C623	10	96
C624	10	76
C625	10	63
C626	77	73
C627	88	77
C628	124	69
C629	104	71
C630	70	95
C631	64	64
C632	121	48
C633	91	49
C634	151	72
C635	67	27
C636	35	16
C637	72	38
C638	81	24
C639	129	89
C640	141	31
C641	121	11
C642	46	23
C643	173	87
C644	112	71
C645	107	57
D302	195	69
D501	173	137
D502	174	111
D503	204	136
D504	193	147
D521	170	241
D522	129	200
D524	125	200
D525	211	105
D601	105	150
D602	100	140
D603	87	198
D621	36	100
D622	40	100
D623	32	87
D624	43	87
D625	77	78
D626	93	85
D627	120	64
D628	100	68
D629	20	69
D630	59	98
D631	108	66
D632	64	78
D633	93	73
D634	14	103
DB601	53	155
E1	9	237
E10	21	169
E11	36	169
E12	31	141
E13	54	137
E14	74	146
E15	74	156
E16	85	241
E17	99	241
E18	85	171
E19	99	171
E2	24	212
E20	115	210
E21	130	210
E22	138	210
E23	134	199
E24	142	199
E25	161	239
E26	161	232
E27	161	217
E28	173	213
E29	173	202
E3	39	212
E30	177	192
E31	202	200
E32	202	207
E33	202	213
E34	82	131
E35	82	106
E36	102	131
E37	97	106
E38	122	131
E39	122	106
E4	47	212
E40	170	78
E41	195	78
E42	170	10
E43	195	10
E44	30	126
E45	54	126
E46	30	105
E47	45	105
E48	136	184
E49	144	184
E5	33	202
E6	46	202
E7	33	187
E8	46	187
E9	14	169
F601	12	221
F621	86	87
F622	89	87
FB601	64	195
FB602	68	195
FB621	124	82
FR501	204	151
FR502	193	151
FR521	199	151
FR623	104	82
FR624	112	82
FR635	142	89
FR636	147	89
IC301	178	44
IC302	188	44
IC303	196	72
IC501	160	126
IC601	74	206
IC621	15	69
IC622	101	36
IC623	46	49
IC624	32	34
IC625	57	53
IC626	87	21
IC627	134	83
IC628	109	193
IC629	113	164
J301	163	61
J302	163	32
J303	199	29
J304	164	22
J305	213	36
J306	196	27
J307	166	39
J308	163	46
J309	163	56
J310	163	59
J311	166	65
J501	151	165
J502	157	165
J503	189	154
J504	196	165
J505	208	119
J506	218	121
J507	203	122
J509	193	97
J510	179	97
J512	215	190
J521	144	188
J601	69	126
J602	97	190
J603	100	167
J621	68	19
J622	26	9
J623	50	18
J624	74	21
J625	77	14
J626	60	31
J627	32	58
J628	59	74
J629	99	64
J630	127	24
J631	128	33
J632	128	40
J633	142	49
J634	155	39
J635	131	101
J636	133	95
J637	137	107
J638	154	88
J639	73	103
J641	57	70
J642	11	120
J643	29	59
L301	75	102
L302	212	9
L521	144	184
L522	142	199
L621	131	65
PT601	14	136
R301	212	22
R302	212	25
R303	163	43
R304	163	37
R305	212	17
R306	212	12
R307	197	83
R308	179	28
R313	213	49
R314	213	47
R315	199	59
R316	212	58
R317	212	61
R318	186	57
R501	159	140
R502	156	127
R503	169	125
R504	167	138
R505	182	142
R506	182	146
R507	180	107
R508	171	119
R509	181	119
R510	154	163
R511	187	94
R521	187	121
R522	122	200
R523	118	200
R524	122	215
R525	117	224
R526	152	242
R527	201	167
R528	189	158
R529	189	161
R530	189	165
R531	217	143
R532	147	199
R533	146	176
R534	212	131
R535	214	125
R601	92	176
R602	96	137
R603	109	223
R604	99	215
R605	74	241
R606	78	217
R607	79	171
R620	38	81
R621	13	83
R622	58	80
R623	58	77
R624	58	84
R625	99	43
R626	43	61
R627	63	34
R628	63	26
R629	70	46
R630	110	42
R631	105	42
R632	100	14
R633	118	177
R634	118	170
R635	94	61
R636	135	79
R637	135	42
R638	150	89
R639	146	24
R640	146	11
R641	127	19
R642	127	16
R643	76	16
R644	124	163
R645	139	157
R646	128	69
R647	81	49
R648	24	69
R649	12	90
R650	12	87
RC601	54	141
RL601	69	106
RL602	21	107
T301	210	30
T501	165	112
T521	117	219
T522	137	221
T523	208	101
T621	52	93
T622	52	88
T623	136	18
T624	114	10
T625	120	37
T626	25	93
T627	25	98
TR501	188	202
TR522	134	233
TR601	33	187
TR602	122	131
TR603	30	126
VD601	30	223
VR601	134	71
X301	158	26
X302	158	14
X303	216	15
X501	160	193
X502	211	143
X503	216	97
X504	162	183
X601	29	240
X602	18	158
X603	43	10
ZD301	168	93
ZD521	187	106
ZD522	171	161
ZD523	208	113
ZD524	218	131

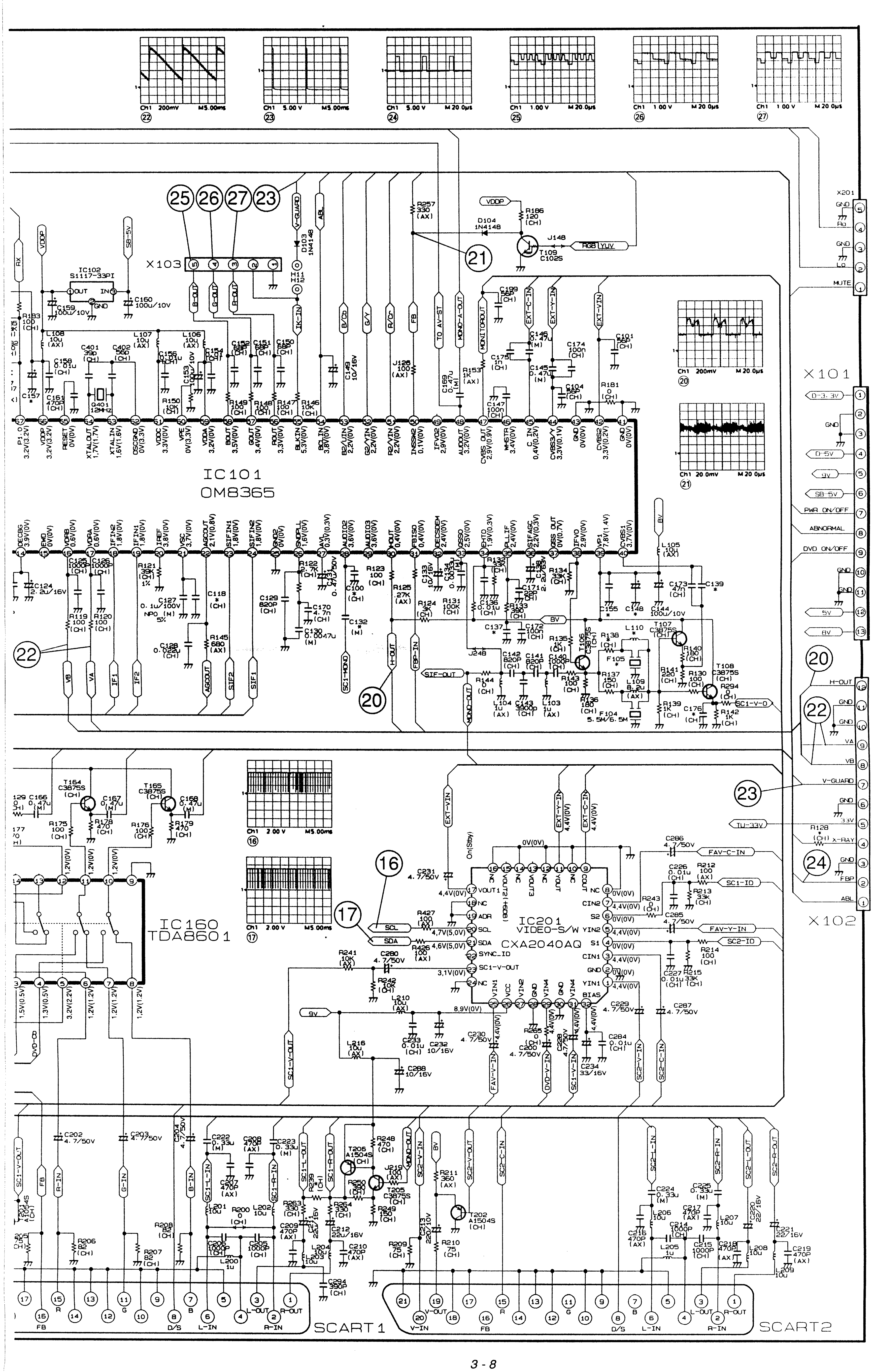
ZL6.190-03 - Leiterplatte / PCB


Y
X
BARCODE
T3.15AH
250V AC
F601
TR601
TR604
VD601
X601
X602
RL601
RC601
J601
PT601
D6601
TR602
TR603
IC624
IC623
IC625
IC627
IC628
IC629
IC601
IC621
IC5014
IC301
IC302
HS624
HS625
HS626
HS627
HS622
HS623
HS5501
HS5301
HS5302
HS501
HS522
X603
X604
X301
X302
X303
X501
X502
X503
X504
TR501
TR522
FB601
FB602
FB621
VR601
L301
L521
L522
L523
L621
E35
E36
E37
E38
E39
E40
E41
E42
E45
E46
E47
E48
E49
E50
E51
E52
E53
E54
185V
COL
B+
GND
-14V
14V
ABL
HT
FBP
14"
20"/21"
MAX. HIGH VOLTAGE
MAX. BEAM CURRENT
GND
5V
8V
9V
14V
S-VCC
SGND
IN
OUT
REF
Mute
Rin
Lin
ST
Vcc
H-OUT
V-GUARD
X-RAY
33V
FBP
ABL
ZL6.190-03
BEKO ELEKTRONIK
EAS
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑬
⑭

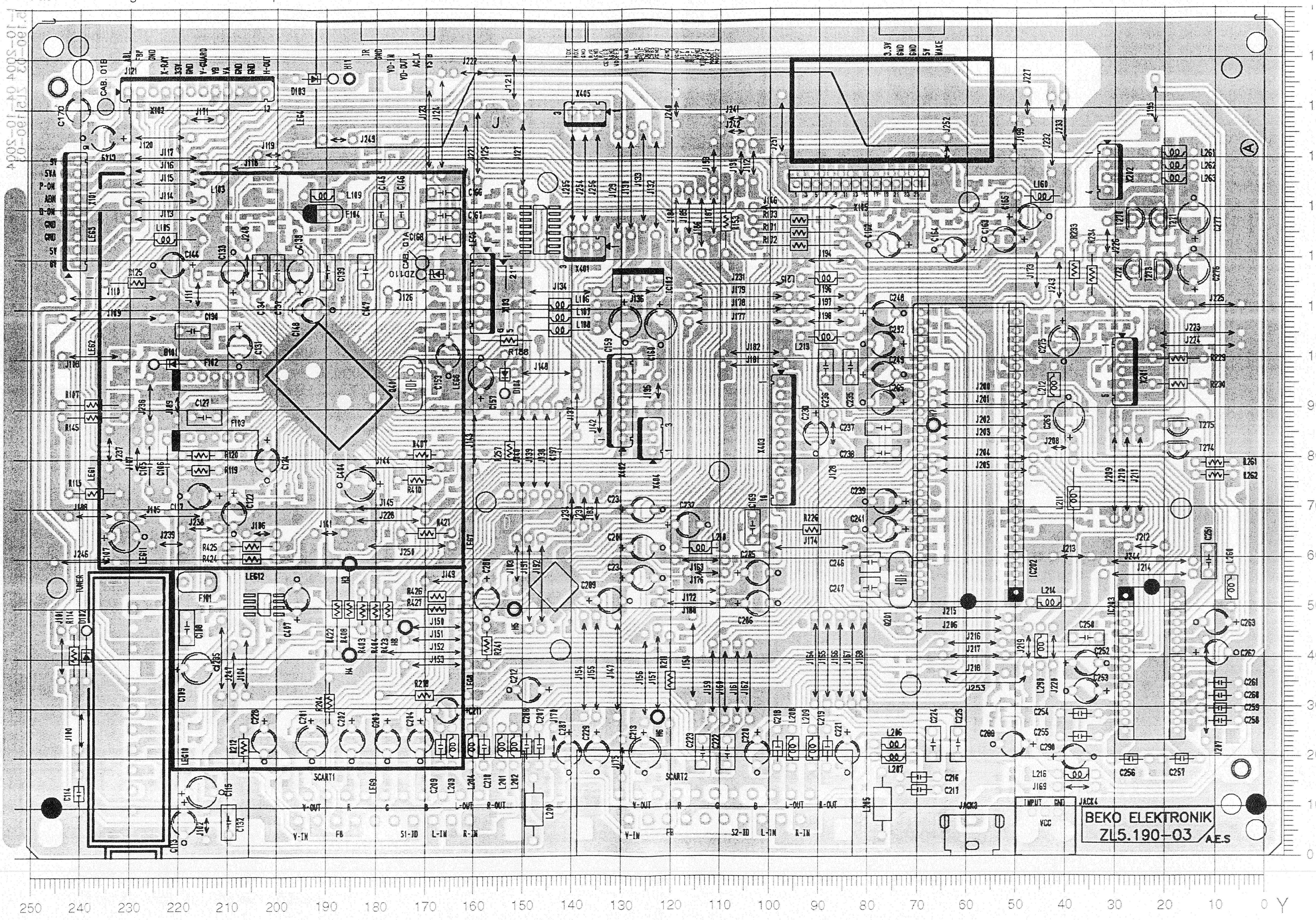
ZL5.190-03 - Signalverarbeitung / Signal Processing


X403
R187 150 (CH)
X202
L263 18u (AX)
L262 18u (AX)
L261 18u (AX)
8V
L215 10u (AX)
C275 22u/10V
C248 1000P (CH)
C279 1000P (CH)
C277 100/16V
C276 100/16V
R236 3.3K (CH)
R238 330 (CH)
R235 3.3K (CH)
R237 330 (CH)
R225 100 (CH)
R223 3.9K (CH)
R222 3.9K (CH)
R245 0 (CH)
R244 0 (CH)
C283 1000P (CH)
T271 A1266
T273 A1266
T270 A1266
T272 A1266
T203 A1504S (CH)
R220 0 (CH)
Ro
Lo
R224 100 (CH)
R221 0 (CH)
T204 A1504S (CH)
C270 3300P (CH)
C271 3300P (CH)
R234 220 (AX)
R233 220 (AX)
C274 1000P (CH)
C273 1000P (CH)
C282 1000P (CH)
R219 0 (CH)
C272 0.01 (CH)
C281 0.01u (CH)
L212 10u (AX)
C269 220/10V
R218 100 (AX)
RESET
C-DACS-L
C-DACS-R
TEST
DACH-L
DACH-R
VREF
DACA-L
DACD-R
RESET
N-DAT
N-CLK
FRAME
S-DA-OUT
DGND
DVSUP
S-CLK
S-ID
SC2-OUT-R
SC2-OUT-L
VREF
SC1-OUT-R
SC1-OUT-L
CAPL-A
ABVSUP
ABVSUP
AHVSUP
AGNDC
PDMC1
PDMC2
BAGND
SC3-IN-L
SC3-IN-R
ASG2
SC2-IN-L
R258 330 (CH)
R259 330 (CH)
R256 0 (CH)
C246 10u/16V
C249 10u/16V
C266 0.01u (CH)
C265 10/16V
C264 0.01u (CH)
C237 0.47u (M)
C238 0.47u (M)
L213 10u (AX)
C292 100/10V
SC2-R-OUT
SC2-L-OUT
SC1-R-OUT
SC1-L-OUT
8V
DVD-L-IN
DVD-R-IN
FAV-L-IN
FAV-R-IN
SC1-L-IN
X405
X401
J256
J254
J255
TX
RX
X104
DVD POWER
D-3.3V
D-5V
WAKE
C293 1000P (CH)
X105
DVD FFC CONNECTOR
C180
C181
C182
C183
C184
C185 (CH)
C186 (CH)
R254 0 (CH)
EXT-Y-IN
DVD-CVBS-IN
C236 0.47u (M)
DVD-R-IN
C235 0.47u (M)
R253 0 (CH)
DVD-L-IN
SPDIF-OUT
L160 10u
5V
C165 100u/10V
R166 470 (CH)
R167 470 (CH)
R168 470 (CH)
C162 47/16V
R171 100 (AX)
DVD-Y
R170 0 (CH)
C163 47/16V
R172 100 (AX)
DVD-Cb
DVD-Cr
C164 47/16V
R173 100 (AX)
R169 0 (CH)
R164 100 (CH)
R165 100 (CH)
T162 A1504S (CH)
T161 A1504S (CH)
R163 100 (CH)
T160 A1504S (CH)
R160 75 (CH)
R161 75 (CH)
R162 75 (CH)
C188 (CH)
C187 (CH)
C190 (CH)
C189 (CH)
R251 5.6K (CH)
C256 0.1u (AX)
C255 0.1u (AX)
BIN(L)
BOUT(R)
BIN(R)
IC203
TDA7442
BOUT(L)
LP
PS1
C257 0.1u (AX)
C258 4700p (AX)
R252 5.6K (CH)
R246 0 (CH)
R247 0 (CH)
8V
F102 K9656M
SIF1
SIF2
R151 10K (CH)
C104 10/16V
R107 100 (AX)
C102 0.01u (CH)
R110 100 (CH)
R111 2.2K (CH)
R109 6.8K (CH)
R108 2.2K (CH)
D101 BA282
T102 C1025 (CH)
L"H"
15
R100 0 (CH)
F101 40.4MHz
C105 0.01u (AX)
R101 39 (CH)
R152 (CH)
T104 C1025 (CH)
T105 C1025 (CH)
C106 0.01u (AX)
F103 K3958M
IF1
IF2
TU-33V
C108 0.01u (M)
C107 47/50V
17
C110 0.01u (AX)
C109 100/10V
5V
Ch1 100mV M 20.0µs
15
16
R112 100 (CH)
SDA
C111 56P (CH)
R113 100 (CH)
SCL
C112 56P (CH)
R117 0 (CH)
8V
R116 12K (CH)
C114 0.01u (AX)
C113 10/16V
D102 1N4148
C115 220/10V
R114 10K (AX)
R115 18K (AX)
AGC-IN
T103 C1025 (CH)
AM"H"
TU100
IF1
ADC
33V
NC
5V
MB
SDA
SCL
AS
AGC

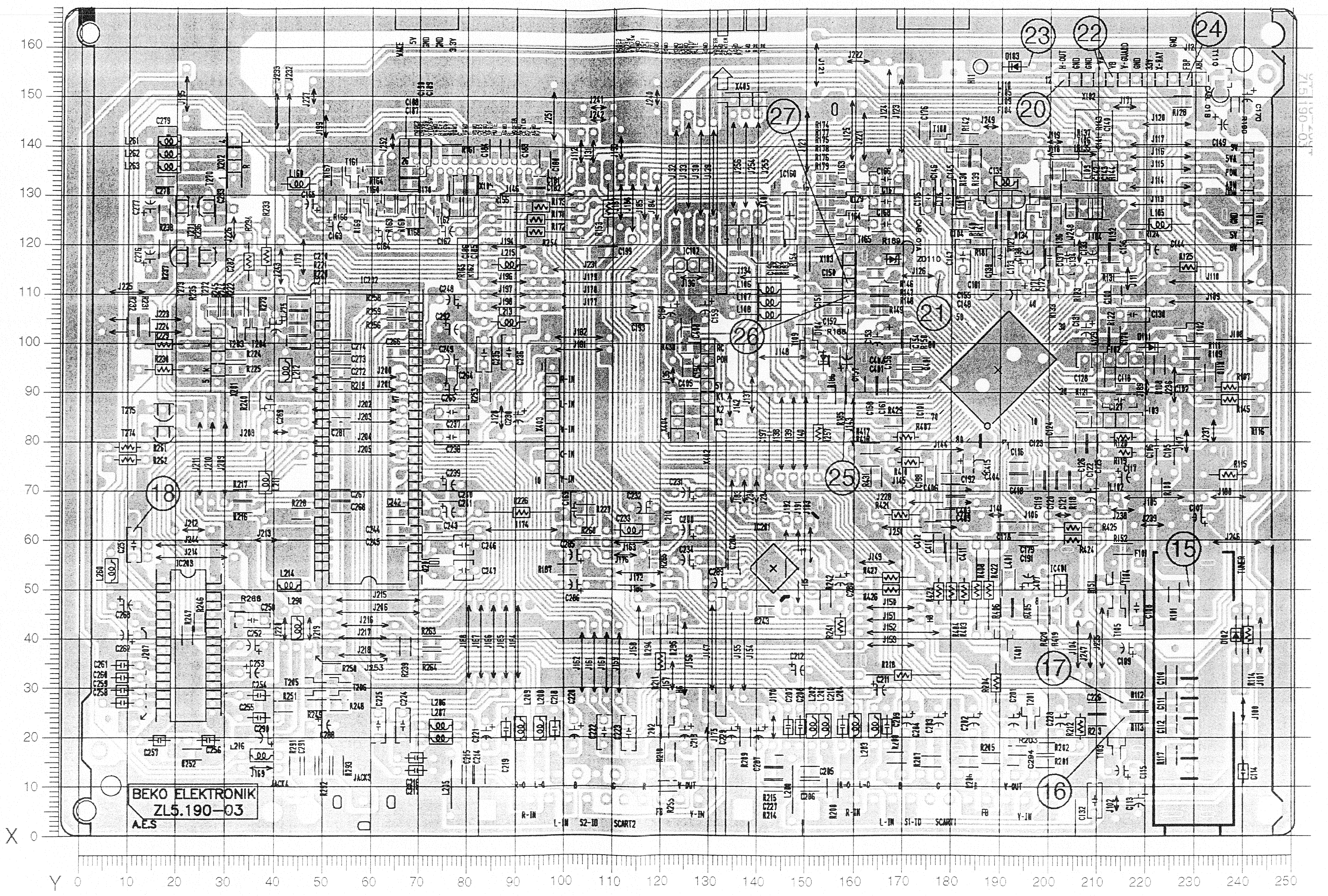

X404
X402
KEY3
KEY2
KEY1
SB-5V
PWR_ON
R/C
IC202
MSP3410G
IC401
24C08
Q201
18.432MHz
T401
C102S
T163
C3875S
T724
2N7000
T725
2N7000
T201
A1054S
JACK3
RCA OUTPUT
JACK4
TOTX179
OPTICAL OUTPUT
RESET
SDA
SCL
SC1-L-IN
SC1-R-IN
SC2-L-IN
SC2-R-IN
MONO-IN
SIF-IN
DVD-L-IN
FAV-L
SC1-L
SC1-R-OUT
SC1-L-OUT
SC1-R
FAV-R
DVD-R-IN
AM"H"
RGB/YUV
MUTE
ABNORMAL
PWR ON "L"
TX
RX
VDDP
L"H"
DVD-ON
8V
MONITOROUT
SC1-V-IN
SC1-V-OUT
FB
DVD-Cr
DVD-Y
DVD-Cb
On(Stby)
Ch1 2.00 V M5.00ms
Ch1 1.00 V M1.00ms
⑯
⑰
⑱
㉒
V-IN
V OUT


Ch1 200mV M5.00ms ㉒
Ch1 5.00 V M5.00ms ㉓
Ch1 5.00 V M 20.0µs ㉔
Ch1 1.00 V M 20.0µs ㉕
Ch1 1.00 V M 20.0µs ㉖
Ch1 1.00 V M 20.0µs ㉗
Ch1 200mV M 20.0µs ⑳
Ch1 20.0mV M 20.0µs ㉑
Ch1 2.00 V M5.00ms ⑯
Ch1 2.00 V M5.00ms ⑰
IC101
OM8365
IC102 S1117-33PI
X103
IC160
TDA8601
IC201
VIDEO-S/W
CXA2040AQ
X101
X102
X201
D-3.3V
GND
D-5V
9V
SB-5V
PWR ON/OFF
ABNORMAL
DVD ON/OFF
5V
8V
H-OUT
VA
VB
V-GUARD
TU-33V
X-RAY
FBP
ABL
MUTE
Lo
Ro
VDDP
RGB YUV
T109 C102S
D104 1N4148
D103 1N4148
R257 330 (AX)
R186 120 (CH)
J148
Q401 12MHz
SIF-OUT
SC1-V-O
SC1-ID
SC2-ID
FAV-C-IN
FAV-Y-IN
EXT-V-IN
EXT-Y-IN
EXT-C-IN
MONO-OUT
MONO-A-OUT
MONITOROUT
TO AV-ST
SCL
SDA
SC1-V-OUT
SC2-V-IN
SC2-C-IN
FAV-V-IN
DVD-V-IN
SC1-V-IN
T107 C3875S
T108 C3875S
T106 C3875S
T164 C3875S
T165 C3875S
F104 5.5M/6.5M
F105
T206 A1504S (CH)
T205 C3875S (CH)
T202 A1504S (CH)
T201 A1504S (CH)
SC1-L-IN
SC1-R-IN
SC1-L-OUT
SC1-R-OUT
SC2-L-IN
SC2-R-IN
SC2-L-OUT
SC2-R-OUT
R-IN
G-IN
B-IN
FB
SCART1
SCART2
L-OUT
R-OUT
L-IN
R-IN
V-OUT
V-IN
D/S
R
G
B

Sicht auf Bestückungsseite / View on Component Side


BEKO ELEKTRONIK
ZL5.190-03
A.E.S
SCART1
SCART2
TUNER
JACK3
JACK4
INPUT
GND
VCC
X
Y
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250

Ansicht auf Lötseite / View on solder side


BEKO ELEKTRONIK
ZL5.190-03
A.E.S
X
Y
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
15
16
17
18
20
21
22
23
24
25
26
27
TUNER
JACK4
JACK3
SCART2
SCART1
R-IN
L-IN
S2-ID
S1-ID
Y-IN
V-OUT
Y-OUT
FB
H-OUT
V-GUARD
X-RAY
FBP
ABL
WAKE
5V
GND
3.3V
IC201
IC203
IC202
IC101
IC102
IC160
IC401
X101
X102
X103
X104
X401
X402
X403
X405
ZD110

Koordinaten für die Bauteile der Bestückungsseite (Ansicht von oben)
Coordinates of the Components on the component side (top view)

Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y
C102	86	228
C105	76	226
C106	76	222
C107	88	238
C108	46	219
C109	39	218
C113	5	218
C114	9	240
C115	20	218
C116	67	193
C117	63	192
C119	67	198
C120	67	202
C121	67	206
C122	60	219
C123	67	213
C124	72	218
C127	87	212
C128	91	212
C129	99	220
C130	99	217
C131	99	211
C132	107	225
C133	118	209
C134	113	204
C137	113	200
C138	118	196
C139	113	190
C144	118	223
C145	125	179
C146	125	176
C147	113	183
C149	116	165
C153	100	160
C157	95	153
C159	103	131
C160	103	124
C162	121	81
C163	122	58
C164	120	68
C165	126	48
C166	129	165
C167	126	165
C168	122	165
C169	136	111
C200	61	125
C201	21	193
C202	21	185
C203	21	178
C204	21	172
C207	18	148
C208	18	150
C209	18	168
C210	18	159
C211	29	167
C212	33	152
C213	18	127
C216	16	68
C217	13	68
C218	18	100
C219	18	90
C220	18	104
C221	18	86
C222	18	110
C223	18	115
C224	20	69
C225	20	66
C228	21	203
C229	18	136
C230	81	93
C231	69	125
C232	66	116
C234	55	125
C235	94	86
C236	94	89
C237	84	77
C238	81	77
C239	70	81
C241	65	81
C246	58	79
C247	53	79
C248	107	77
C249	95	77
C250	43	36
C251	56	15
C252	38	36
C253	33	41
C254	28	36
C255	24	36
C256	19	26
C257	19	16
C258	27	9
C259	29	9
C260	32	9
C261	34	9
C262	40	11
C263	46	16
C265	89	82
C269	89	42
C275	99	43
C276	118	18
C277	128	18
C280	49	158
C285	58	102
C286	50	102
C287	18	142
C288	22	56
C289	51	131
C290	20	39
C292	101	82
C401	91	170
C402	96	170
C404	63	185
C407	57	197
D101	90	225
D102	45	238
D103	153	189
D104	116	149
F101	55	219
F102	95	218
F103	83	218
F104	127	194
F105	135	194
IC102	114	126
IC202	52	53
IC203	51	31
J100	22	240
J101	35	243
J102	5	213
J103	53	152
J104	33	204
J105	64	219
J106	68	238
J107	76	236
J108	97	230
J109	104	233
J110	110	228
J111	111	213
J112	133	104
J113	126	215
J114	130	215
J115	133	215
J116	136	215
J117	138	215
J118	136	198
J119	139	198
J120	142	218
J121	146	218
J122	128	233
J123	132	170
J124	132	168
J125	131	143
J126	119	164
J127	131	146
J128	80	89
J129	122	136
J130	122	132
J131	133	108
J132	122	126
J133	122	128
J134	112	136
J135	89	124
J136	112	124
J137	83	139
J138	72	145
J139	72	148
J140	72	150
J141	72	153
J142	83	137
J143	76	161
J144	77	168
J145	72	168
J146	128	87
J147	28	131
J148	40	193
J149	40	186
J150	46	162
J151	43	162
J152	41	162
J153	38	162
J154	28	139
J155	28	136
J156	27	127
J157	28	124
J158	30	117
J159	27	113
J160	27	111
J161	27	108
J162	27	106
J163	59	111
J164	30	93
J165	30	90
J166	30	88
J167	30	85
J168	30	83
J169	14	37
J170	18	145
J171	100	136
J172	53	110
J173	111	49
J174	61	85
J175	16	131
J176	56	111
J177	106	98
J178	108	98
J179	111	98
J180	50	110
J181	97	99
J182	100	99
J183	65	137
J184	122	123
J185	122	121
J186	122	118
J187	122	116
J188	122	113
J190	122	111
J191	45	150
J192	45	147
J193	134	116
J194	118	86
J195	143	25
J196	111	86
J197	108	86
J198	106	86
J199	136	56
J200	92	49
J201	89	49
J202	85	49
J203	83	49
J204	79	49
J205	76	49
J206	45	54
J207	23	15
J208	81	41
J209	67	33
J210	67	31
J211	67	28
J212	61	23
J213	59	38
J214	56	18
J215	47	54
J216	42	55
J217	40	55
J218	36	55
J219	38	50
J220	38	45
J221	132	163
J222	154	158
J223	103	8
J224	101	8
J225	109	8
J226	118	35
J227	135	48
J228	70	168
J229	151	35
J230	65	139
J231	113	98
J232	135	46
J233	140	43
J234	65	142
J235	32	211
JACK3	7	61
JACK4	9	47
L101	76	231
L102	63	200
L103	129	204
L104	122	204
L105	122	215
L106	109	136
L107	107	136
L108	104	136
L109	131	187
L110	139	187
L160	130	43
L200	3	149
L201	18	155
L202	18	153
L203	18	165
L204	18	161
L205	4	79
L206	22	73
L207	20	73
L208	18	97
L209	18	93
L210	61	111
L211	63	41
L212	89	45
L213	103	86
L214	50	42
L215	109	44
L216	16	37
L260	49	10
L261	139	18
L262	136	18
L263	134	18
L290	38	48
L401	57	178
Q201	52	76
Q401	91	174
R104	76	233
R106	76	228
R107	100	233
R114	35	241
R119	77	212
R120	80	212
R125	114	222
R146	113	170
R147	110	170
R148	108	170
R149	105	170
R171	123	87
R172	121	87
R173	126	87
R186	118	124
R204	26	190
R211	26	122
R212	18	207
R218	34	162
R226	65	85
R229	98	16
R230	93	16
R233	111	41
R234	110	38
R241	38	158
R261	78	10
R262	75	10
R403	53	183
R404	53	181
R405	45	191
R406	45	188
R407	80	168
R409	62	165
R410	75	169
R421	64	165
R423	53	178
R424	57	200
R425	59	200
R426	52	162
R427	49	162
SCART1	7	196
SCART2	7	130
T270	128	30
T271	123	24
T272	113	29
T273	118	24
T274	81	18
T275	85	18
TUNER	9	229
X101	118	240
X102	151	230
X103	115	160
X104	150	38
X105	133	97
X201	101	32
X202	139	35
X401	96	141
X402	83	131
X403	94	100
X404	80	125

Koordinaten für die Bauteile der Lötseite (Ansicht von unten)
Coordinates of the Components on the solder side (bottom view)

Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y
C101	70	225
C110	32	225
C111	27	225
C112	22	225
C125	78	209
C126	78	207
C135	133	192
C136	120	213
C140	133	204
C141	128	201
C142	125	204
C143	125	207
C150	110	156
C151	108	156
C152	105	156
C154	102	171
C156	102	164
C158	98	155
C161	92	156
C205	13	152
C206	10	152
C214	12	85
C215	12	82
C226	26	210
C227	13	145
C233	63	119
C240	68	78
C242	65	68
C243	62	75
C244	61	68
C245	59	68
C264	92	79
C266	97	68
C267	68	56
C268	66	56
C270	106	48
C271	99	48
C272	92	56
C273	95	56
C274	98	56
C278	131	21

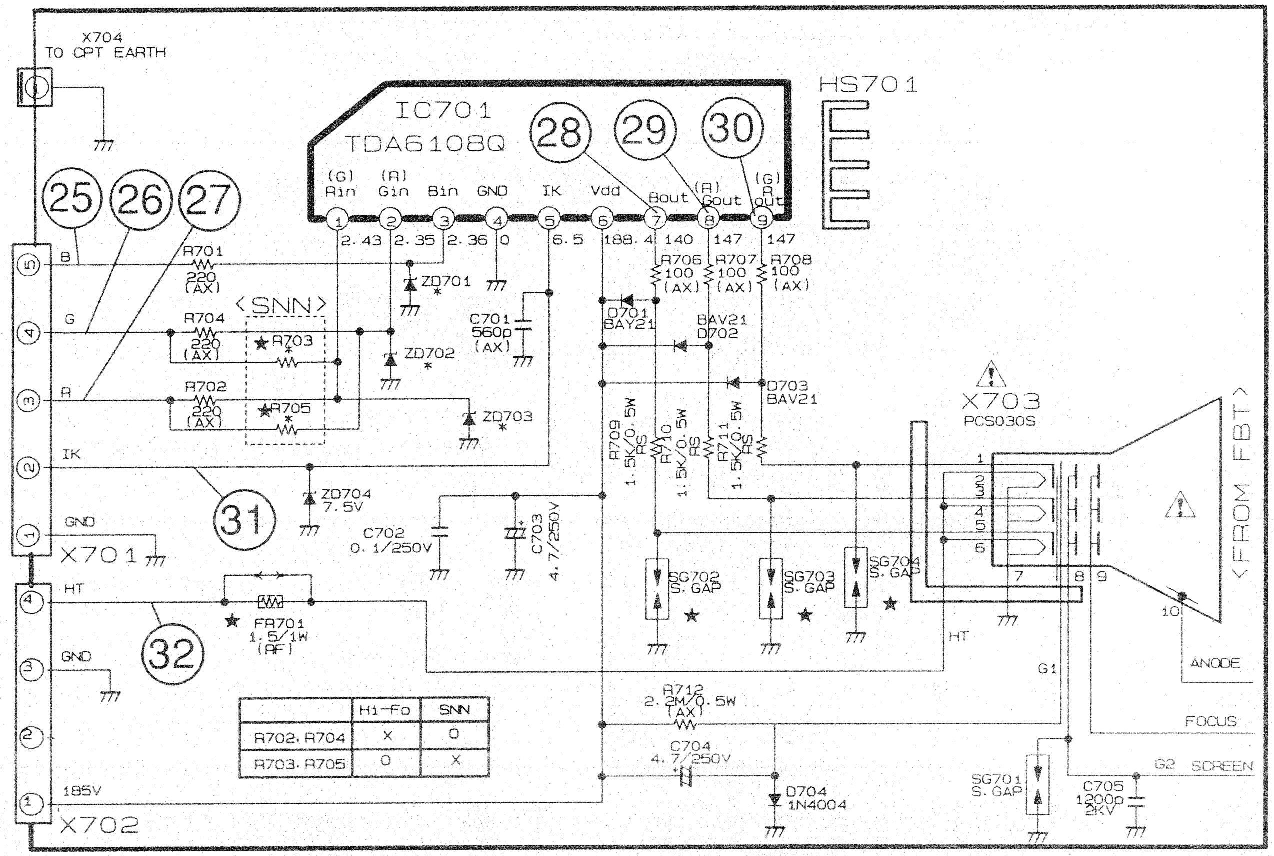
Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y
C279	141	21
C281	82	56
C282	117	32
C283	124	32
C284	55	136
C291	14	50
C403	66	186
C405	88	127
C406	66	183
C408	102	127
C418	75	195
IC101	93	190
IC160	124	146
IC201	53	144
IC401	50	200
R100	72	222
R101	49	226
R102	67	225
R103	73	233
R105	67	229
R108	97	222
R109	91	228
R110	89	228
R111	94	228
R112	26	219
R113	24	219
R115	51	241
R116	55	242
R117	16	225
R118	68	209
R121	87	207
R122	102	215
R123	104	205
R124	114	217
R126	69	195
R127	123	193
R128	147	227
R129	129	161
R130	135	183
R131	114	213

Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y
R132	117	213
R133	108	200
R134	116	198
R135	121	198
R136	124	201
R137	129	198
R138	132	198
R139	135	185
R140	123	188
R141	123	191
R142	139	184
R143	133	202
R144	125	209
R145	55	240
R150	102	167
R151	50	211
R160	126	69
R161	136	63
R162	126	82
R163	126	66
R164	133	63
R165	126	80
R166	126	56
R167	132	55
R168	122	71
R169	126	59
R170	126	73
R174	131	153
R175	126	153
R176	120	153
R177	129	153
R178	123	153
R179	118	153
R180	79	202
R181	118	187
R182	93	142
R183	93	145
R184	115	206
R185	89	156
R187	55	103
R188	89	221

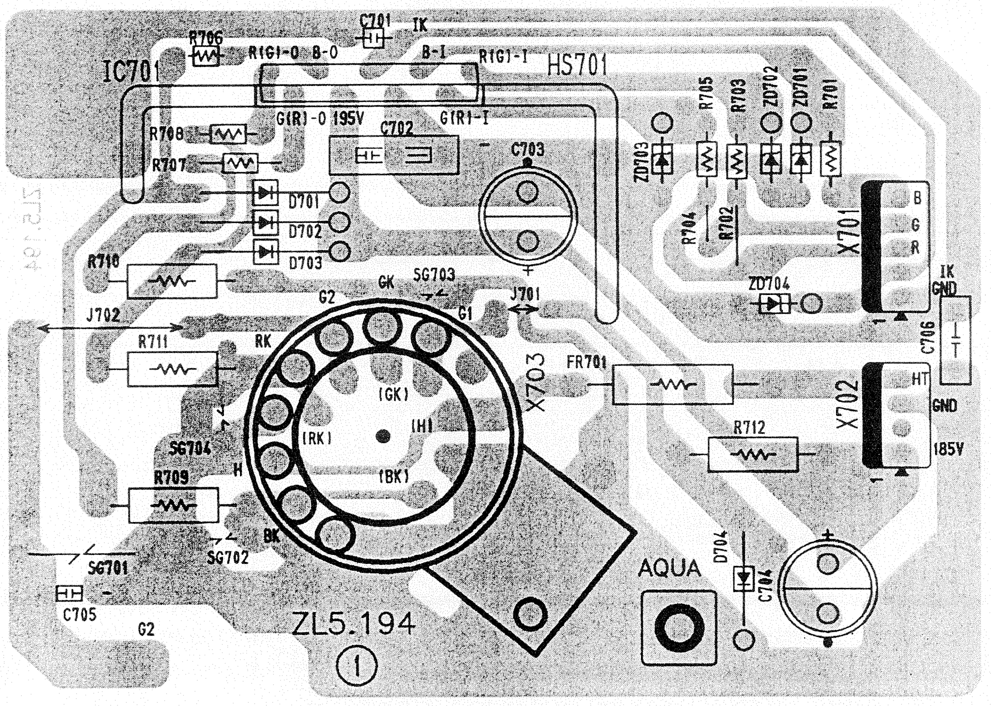
Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y
R200	10	157
R201	15	200
R202	18	200
R203	16	194
R205	16	189
R206	16	184
R207	16	177
R208	16	170
R209	20	139
R210	17	124
R213	23	210
R214	10	145
R215	15	145
R216	66	37
R217	68	37
R219	90	56
R220	101	48
R221	104	48
R222	106	36
R223	106	39
R224	96	35
R225	93	35
R227	63	105
R228	64	48
R231	96	16
R232	91	16
R235	116	27
R236	126	27
R237	117	21
R238	124	21
R239	38	70
R240	87	39
R242	47	155
R243	45	143
R244	106	33
R245	106	31
R246	43	28
R247	40	26
R248	26	56
R249	26	52
R250	33	55

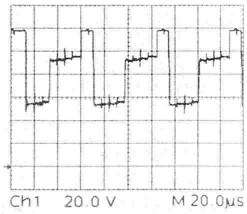
Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y
R251	26	45
R252	16	27
R253	89	86
R254	118	105
R291	14	47
R292	14	53
R293	14	56
R294	42	119
R295	42	124
R408	59	186
R417	77	164
R418	75	164
R419	45	199
R420	45	196
R422	37	185
R429	83	169
R430	98	128
R431	72	165
T101	71	229
T102	100	228
T103	18	214
T104	51	214
T105	46	214
T106	125	198
T107	126	185
T108	138	179
T109	119	138
T160	126	63
T161	131	59
T162	126	76
T163	130	158
T164	126	158
T165	121	158
T201	24	197
T202	22	123
T203	101	36
T204	101	40
T205	30	51
T206	30	56
T401	40	190

ZL5.194 - Bildrohrplatte / CRT Board


X704
TO CPT EARTH
IC701
TDA6108Q
HS701
(G) Rin
(R) Gin
Bin
GND
IK
Vdd
Bout
(R) Gout
(G) R out
2. 43
2. 35
2. 36
0
6. 5
188. 4
140
147
147
㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜
R701 220 (AX)
R704 220 (AX)
R702 220 (AX)
<SNN>
★R703
★R705
ZD701
ZD702
ZD703
ZD704 7.5V
C701 560p (AX)
C702 0. 1/250V
C703 4. 7/250V
R706 100 (AX)
R707 100 (AX)
R708 100 (AX)
D701 BAY21
BAV21 D702
D703 BAV21
R709 1. 5K/0. 5W RS
R710 1. 5K/0. 5W RS
R711 1. 5K/0. 5W RS
X703
PCS030S
<FROM FBT>
SG702 S. GAP
SG703 S. GAP
SG704 S. GAP
SG701 S. GAP
ANODE
FOCUS
G2 SCREEN
G1
HT
B
G
R
IK
GND
X701
HT
GND
185V
X702
★ FR701 1. 5/1W (RF)
R712 2. 2M/0. 5W (AX)
C704 4. 7/250V
D704 1N4004
C705 1200p 2KV

	Hi-Fo	SNN
R702, R704	X	O
R703, R705	O	X


IC701
R706
C701
IK
R(G)-O
B-O
B-I
R(G)-I
HS701
G(R)-O 195V
C702
G(R)-I
C703
R708
R707
D701
D702
D703
R710
GK
SG703
G1
G2
J701
J702
R711
RK
(GK)
(RK)
(H)
(BK)
X703
FR701
SG704
R709
H
BK
SG701
SG702
C705
G2
ZL5.194
①
AQUA
D704
C704
ZD703
R705
R703
ZD702
ZD701
R701
R704
R702
X701
B
G
R
IK
GND
ZD704
C706
X702
HT
GND
185V
R712



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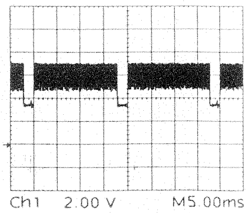

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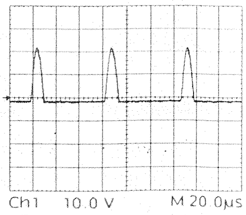

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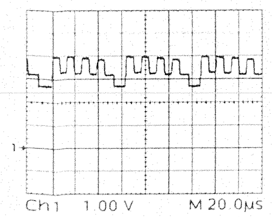

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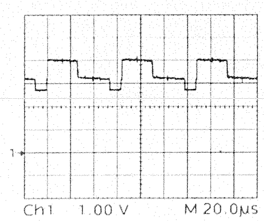

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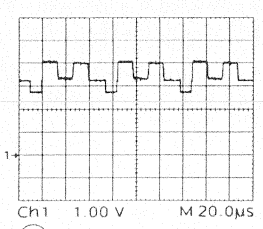

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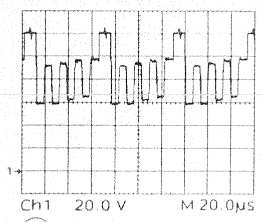

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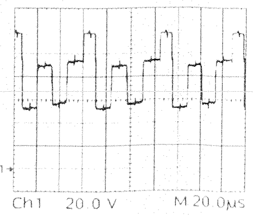

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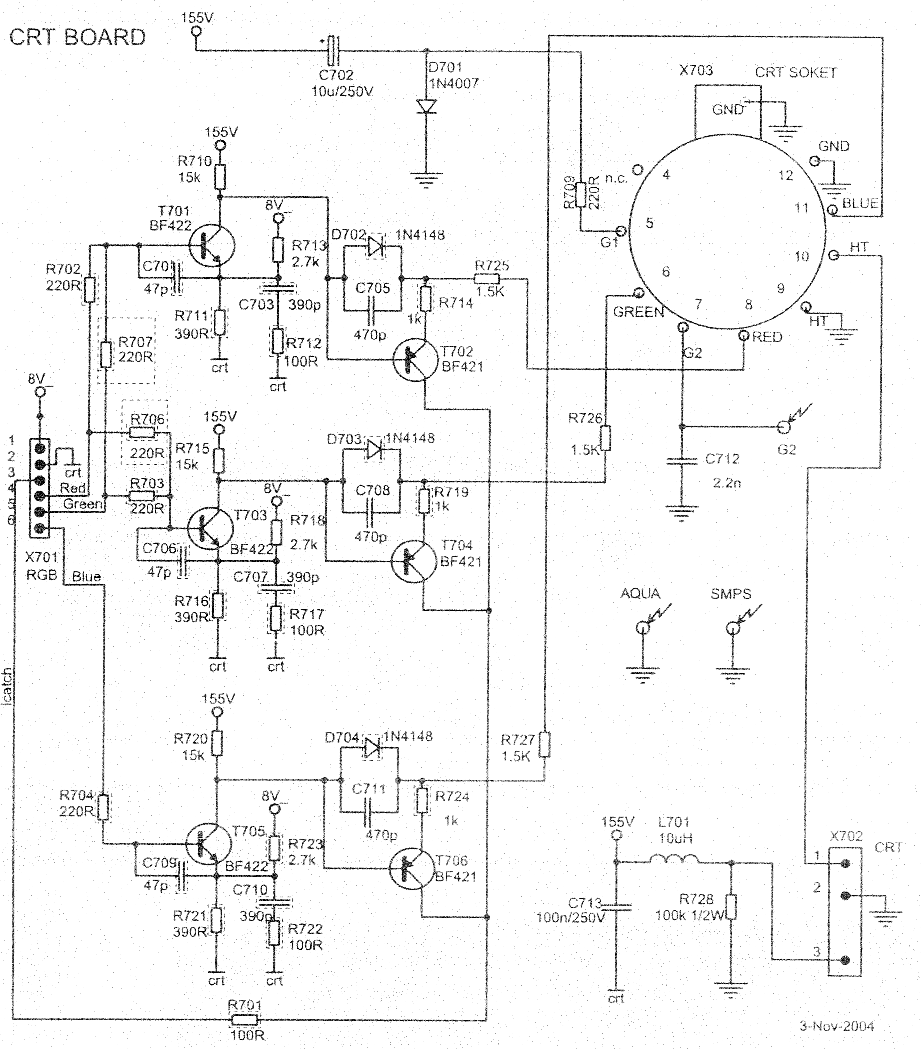
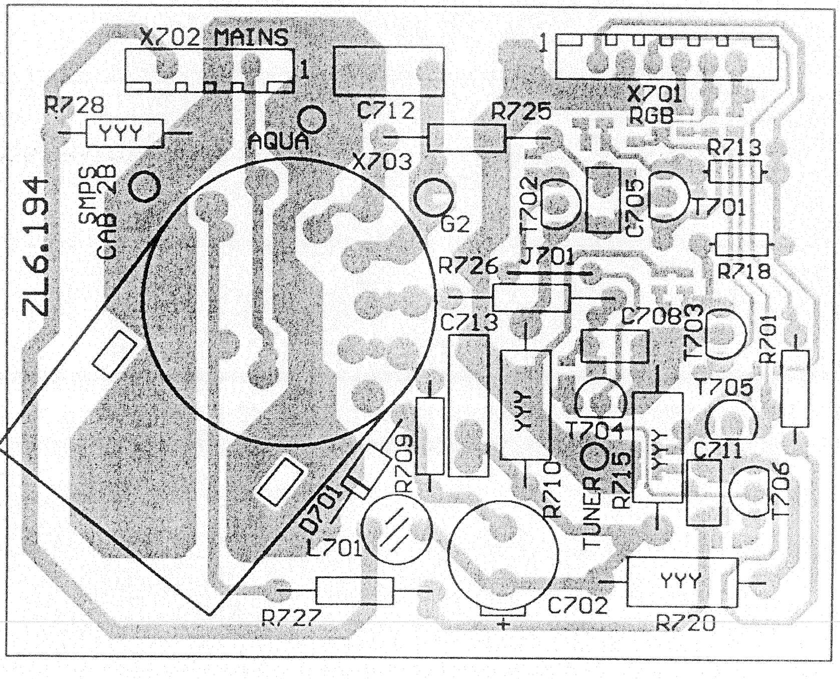
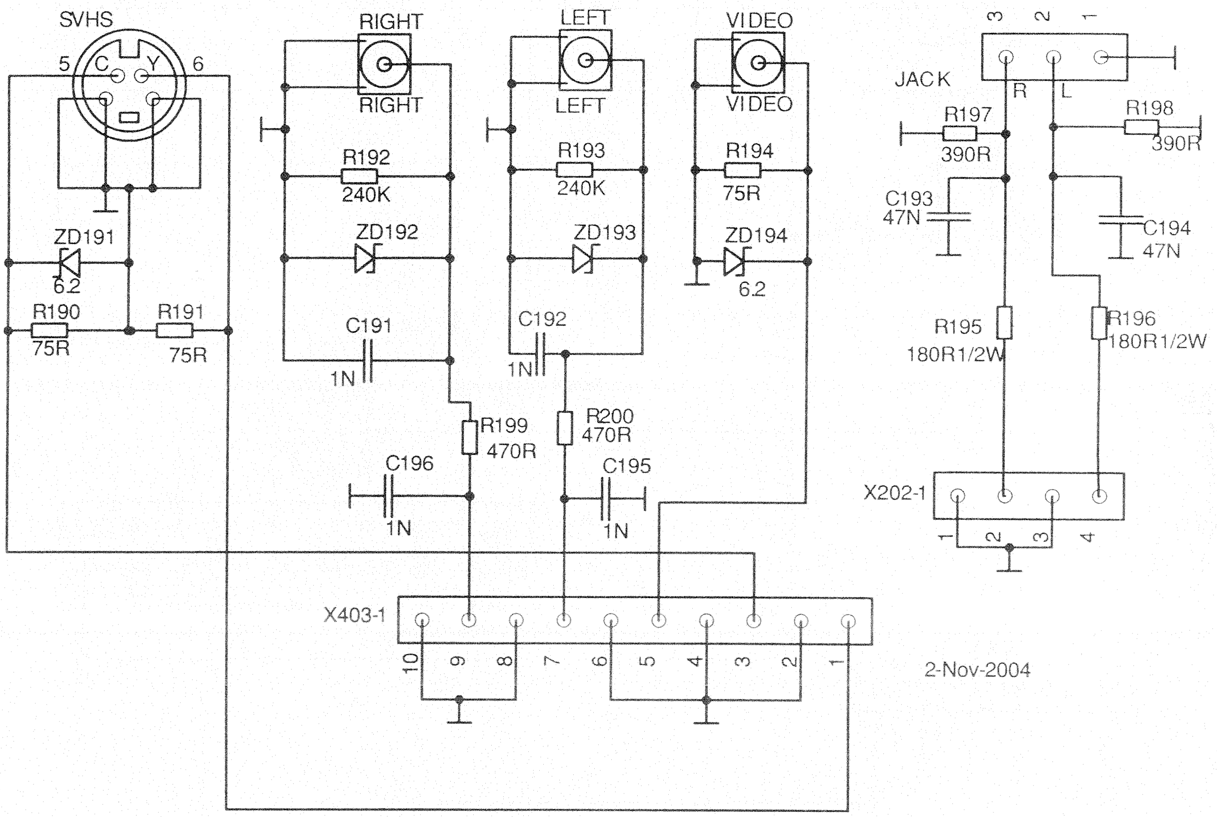
ZL6.194 - Bildrohrplatte / CRT Board


CRT BOARD
155V
C702
10u/250V
D701
1N4007
R710
15k
T701
BF422
8V
R713
2.7k
D702
1N4148
R725
1.5K
R702
220R
C701
47p
C703
390p
C705
470p
R714
1k
R711
390R
R712
100R
crt
T702
BF421
R707
220R
R706
220R
R715
15k
D703
1N4148
C708
470p
R719
1k
R703
220R
Red
Green
Blue
T703
BF422
R718
2.7k
T704
BF421
C706
47p
C707
390p
R716
390R
R717
100R
X701
RGB
Icatch
R720
15k
D704
1N4148
C711
470p
R724
1k
R727
1.5K
R704
220R
T705
BF422
R723
2.7k
T706
BF421
C709
47p
C710
390p
R721
390R
R722
100R
R701
100R
X703
CRT SOKET
GND
n.c.
R709
220R
G1
BLUE
HT
GREEN
RED
G2
R726
1.5K
C712
2.2n
AQUA
SMPS
L701
10uH
C713
100n/250V
R728
100k 1/2W
X702
CRT
3-Nov-2004


X702 MAINS
R728
YYY
AQUA
C712
R725
X701
RGB
ZL6.194
SMPS
CAB 2B
X703
G2
T702
C705
T701
R713
R726
J701
R718
C713
C708
T703
R701
T705
R709
T704
C711
D701
R710
TUNER
R715
T706
L701
C702
R727
R720

ZL5.192-01 - AV-Platte / AV Board


SVHS
C
Y
5
6
ZD191
6.2
R190
75R
R191
75R
RIGHT
RIGHT
R192
240K
ZD192
C191
1N
LEFT
LEFT
R193
240K
ZD193
C192
1N
VIDEO
VIDEO
R194
75R
ZD194
6.2
R199
470R
C196
1N
R200
470R
C195
1N
X403-1
10
9
8
7
6
5
4
3
2
1
JACK
3
2
1
R
L
R197
390R
R198
390R
C193
47N
C194
47N
R195
180R1/2W
R196
180R1/2W
X202-1
1
2
3
4

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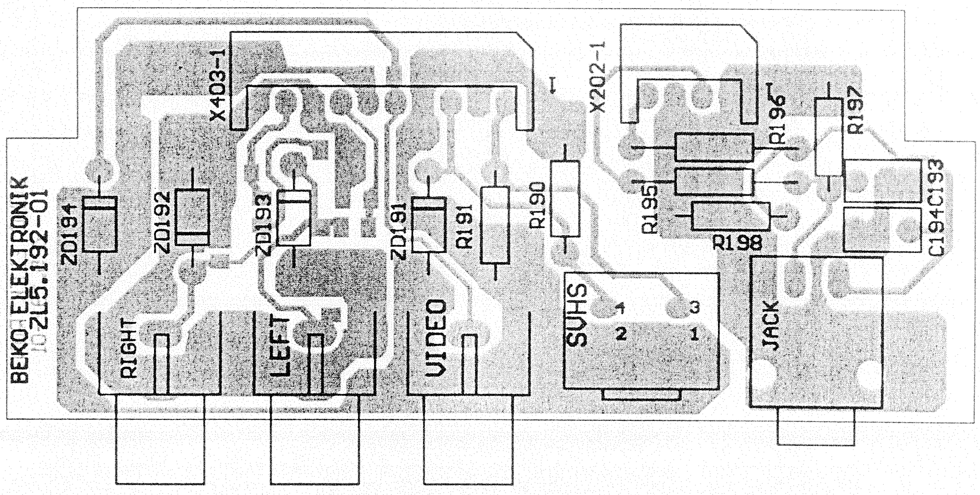
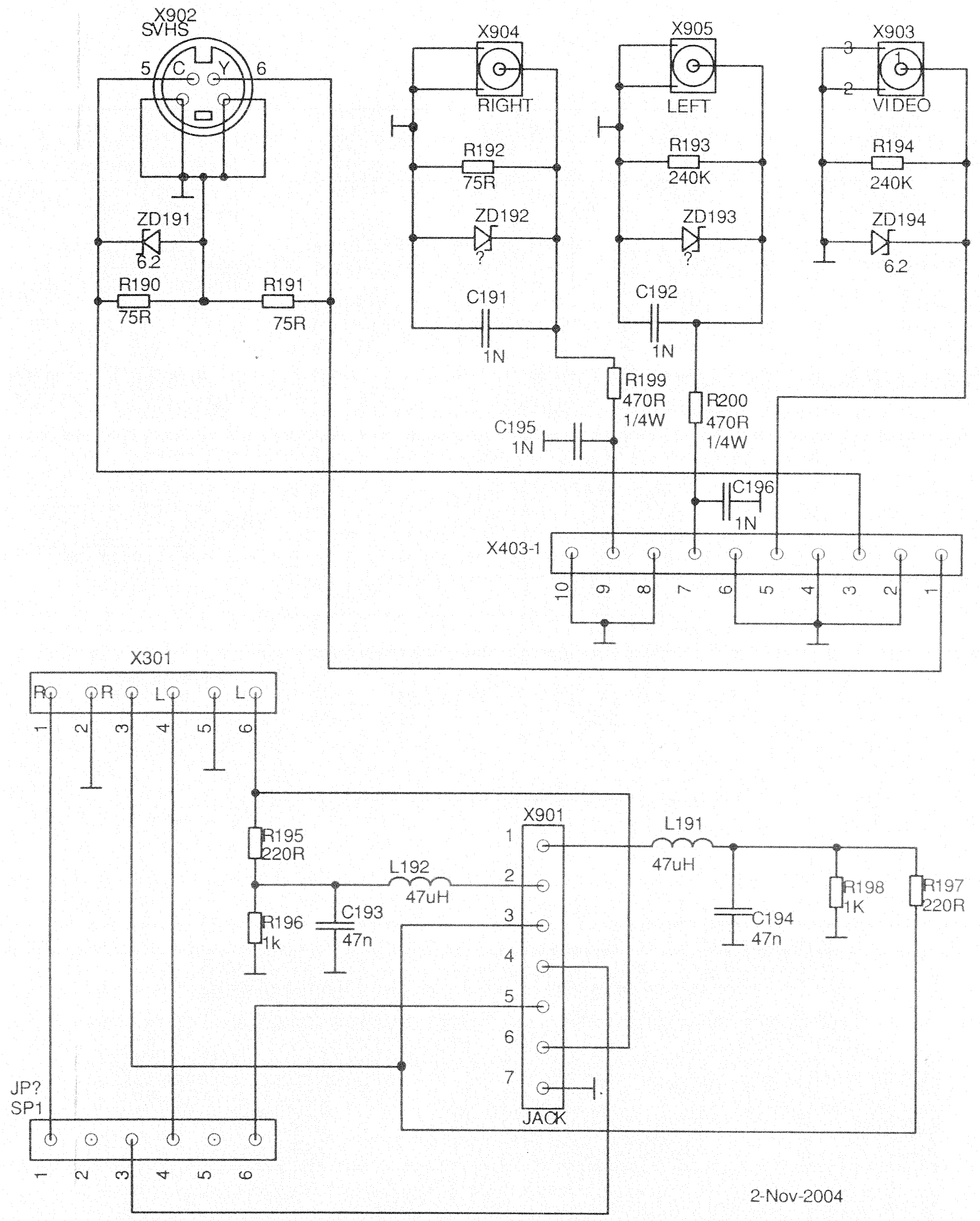

BEKO ELEKTRONIK
ZL5.192-01
ZD194
ZD192
ZD193
ZD191
X403-1
R191
R190
X202-1
R196
R197
R195
R198
C193
C194
RIGHT
LEFT
VIDEO
SVHS
4
3
2
1
JACK

ZL6.192-02 - AV-Platte / AV Board


X902
SVHS
C
Y
5
6
ZD191
6.2
R190
75R
R191
75R
X904
RIGHT
R192
75R
ZD192
?
C191
1N
X905
LEFT
R193
240K
ZD193
?
C192
1N
X903
VIDEO
3
2
1
R194
240K
ZD194
6.2
R199
470R
1/4W
R200
470R
1/4W
C195
1N
C196
1N
X403-1
10 9 8 7 6 5 4 3 2 1
X301
R R L L
1 2 3 4 5 6
R195
220R
R196
1k
C193
47n
L192
47uH
X901
JACK
1 2 3 4 5 6 7
L191
47uH
C194
47n
R198
1K
R197
220R
JP?
SP1
1 2 3 4 5 6

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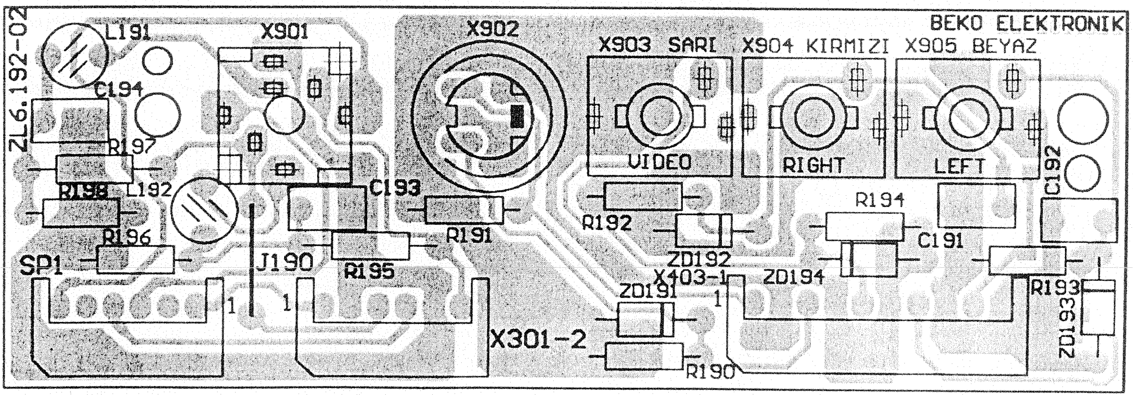
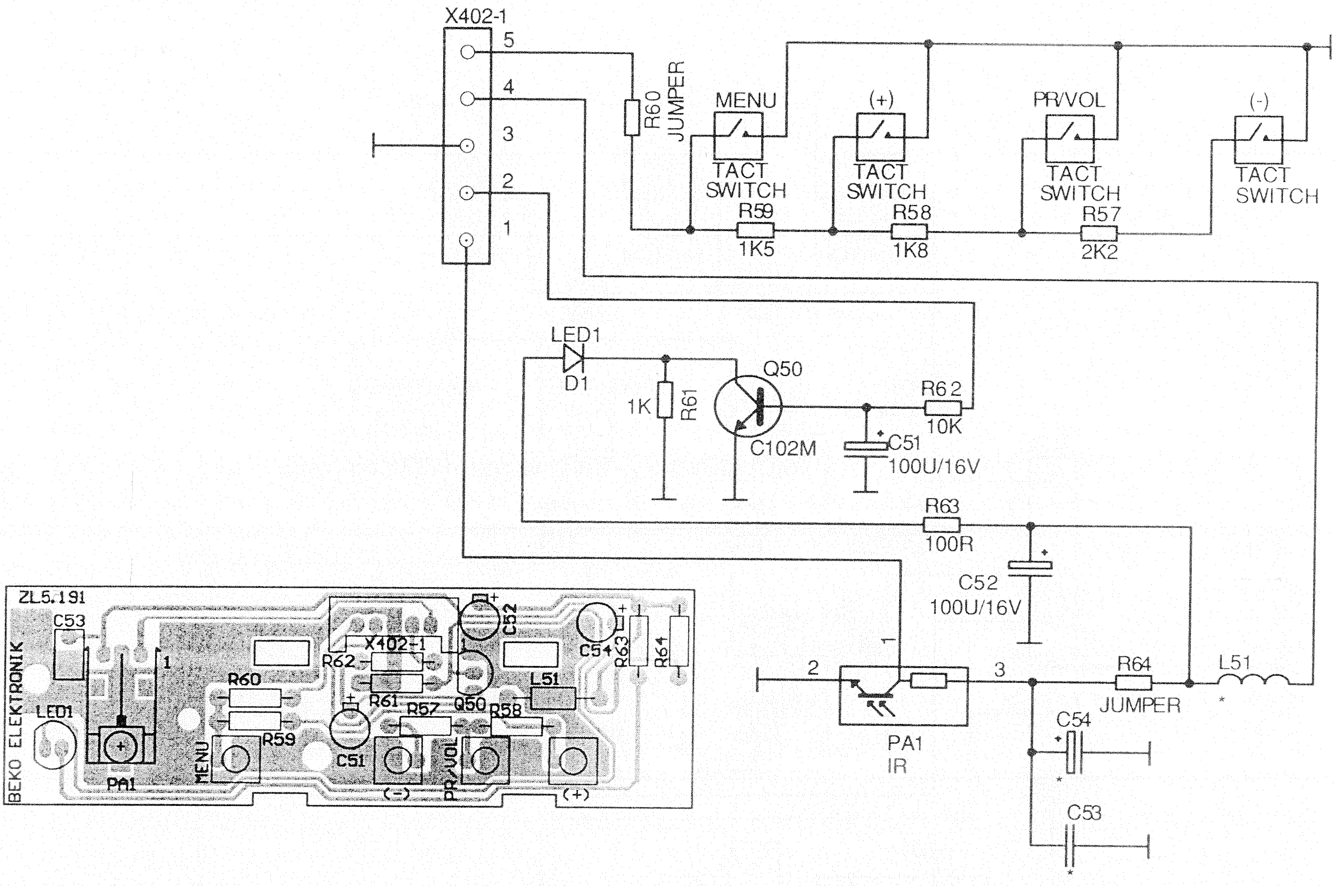
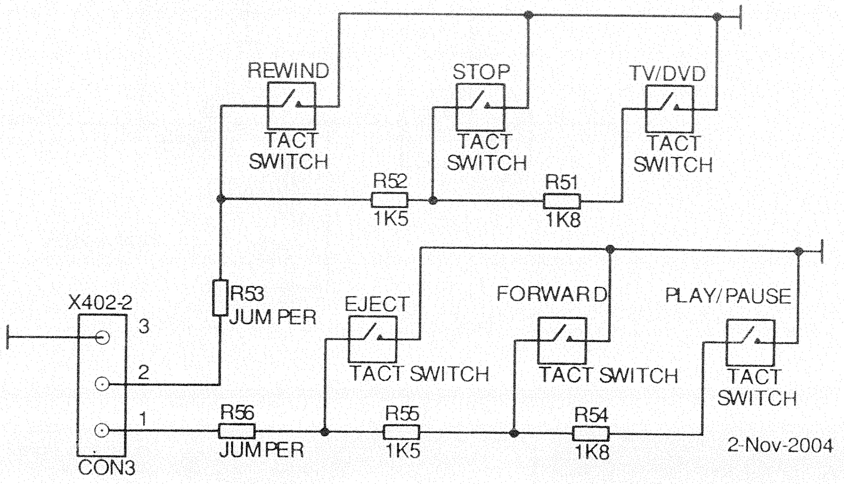

ZL6.192-02
L191
X901
C194
R197
R198
L192
R196
SP1
J190
R195
C193
X902
R191
X903 SARI
X904 KIRMIZI
X905 BEYAZ
BEKO ELEKTRONIK
VIDEO
RIGHT
LEFT
R192
ZD192
X403-1
ZD191
ZD194
R194
C191
R193
ZD193
C192
X301-2
R190
1

ZL5.191 - Bedienplatte / Keyboard


X402-1
5
4
3
2
1
R60
JUMPER
MENU
TACT SWITCH
(+)
TACT SWITCH
PR/VOL
TACT SWITCH
(-)
TACT SWITCH
R59
1K5
R58
1K8
R57
2K2
LED1
D1
1K
R61
Q50
C102M
R62
10K
C51
100U/16V
R63
100R
C52
100U/16V
2
3
R64
JUMPER
L51
PA1
IR
C54
C53
ZL5.191
BEKO ELEKTRONIK
LED1
PA1
R60
R59
MENU
X402-1
R62
R61
R57
Q50
R58
C51
(-)
PR/VOL
(+)
L51
C54
R63
R64

ZL5.195 - Bedienplatte / Keyboard


REWIND
TACT SWITCH
STOP
TACT SWITCH
TV/DVD
TACT SWITCH
R52
1K5
R51
1K8
X402-2
3
2
1
CON3
R53
JUMPER
EJECT
TACT SWITCH
FORWARD
TACT SWITCH
PLAY/PAUSE
TACT SWITCH
R56
JUMPER
R55
1K5
R54
1K8

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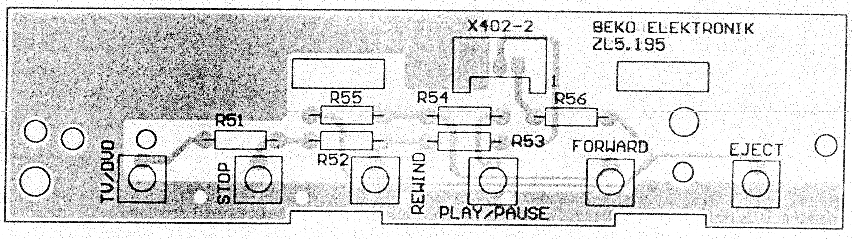
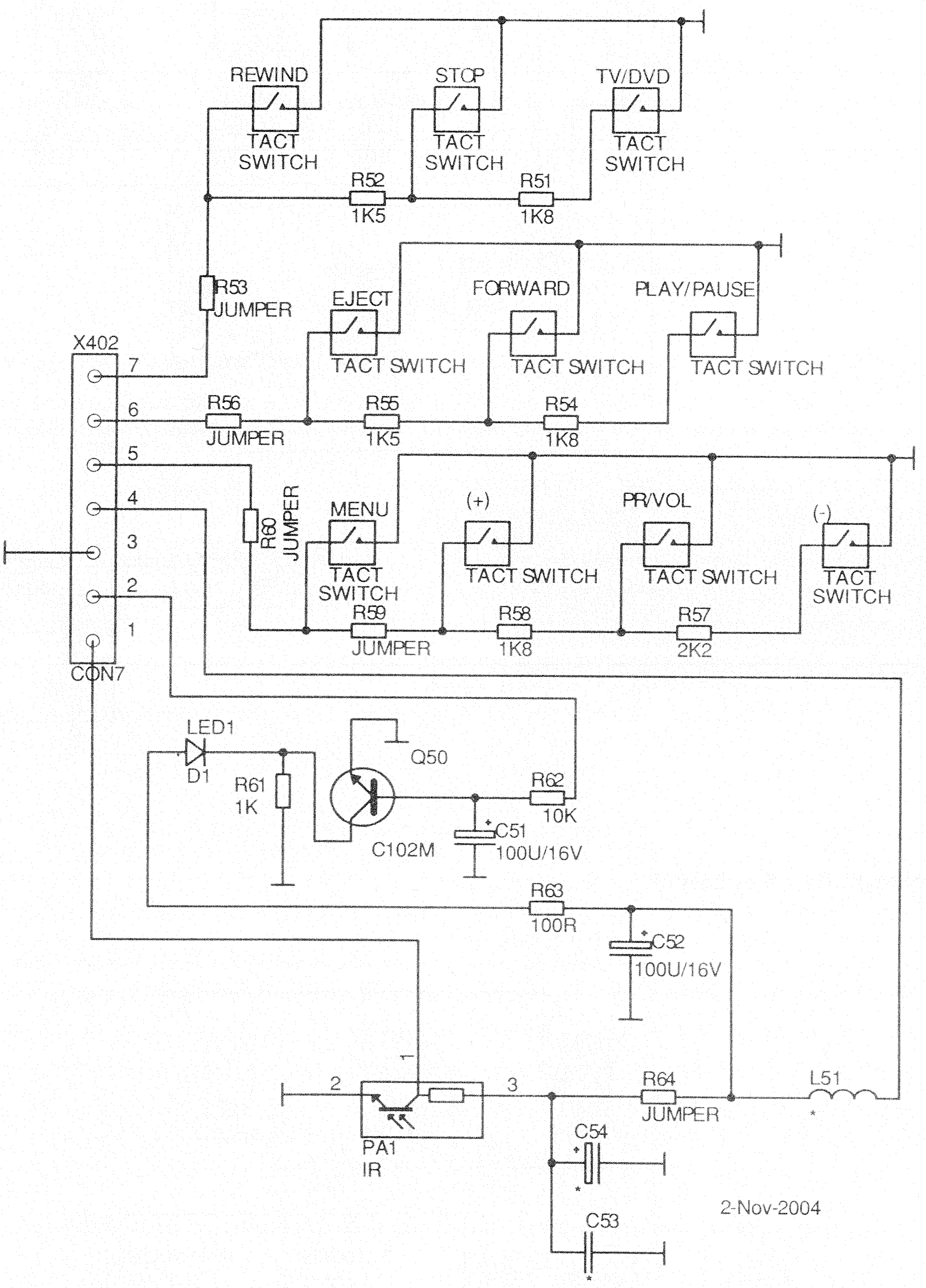
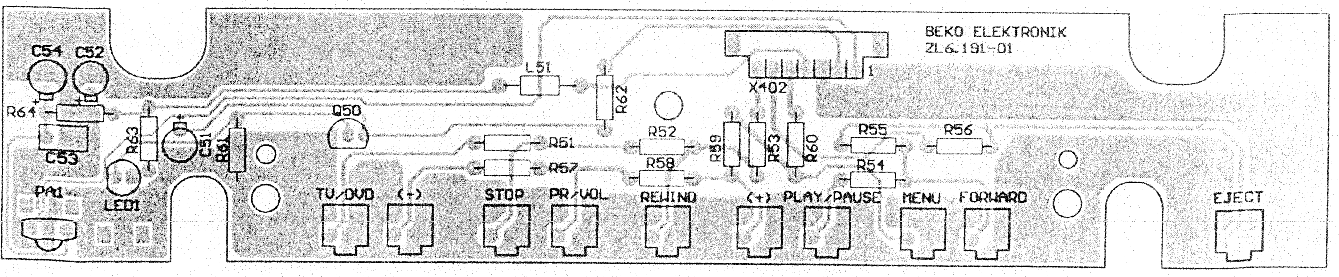

X402-2
BEKO ELEKTRONIK
ZL5.195
1
R55
R54
R56
R51
R53
R52
FORWARD
EJECT
TV/DVD
STOP
REWIND
PLAY/PAUSE

ZL6.191 - Bedienplatte / Keyboard


REWIND
TACT SWITCH
STOP
TACT SWITCH
TV/DVD
TACT SWITCH
R52
1K5
R51
1K8
R53
JUMPER
EJECT
TACT SWITCH
FORWARD
TACT SWITCH
PLAY/PAUSE
TACT SWITCH
X402
7
6
5
4
3
2
1
CON7
R56
JUMPER
R55
1K5
R54
1K8
R60
JUMPER
MENU
TACT SWITCH
(+)
TACT SWITCH
PR/VOL
TACT SWITCH
(-)
TACT SWITCH
R59
JUMPER
R58
1K8
R57
2K2
LED1
D1
R61
1K
Q50
C102M
R62
10K
C51
100U/16V
R63
100R
C52
100U/16V
1
2
3
PA1
IR
R64
JUMPER
L51
C54
C53

2-Nov-2004


BEKO ELEKTRONIK
ZL6.191-01
C54
C52
R64
C53
R63
C51
R61
Q50
L51
R62
X402
1
R51
R57
R52
R58
R59
R53
R60
R55
R56
R54
PA1
LED1
TV/DVD
(-)
STOP
PR/VOL
REWIND
(+)
PLAY/PAUSE
MENU
FORWARD
EJECT